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No. 19-1230

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

UNION OF CONCERNED SCIENTISTS et al.,
Petitioners,

v.

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION,
Respondent,

COALITION FOR SUSTAINABLE AUTOMOTIVE REGULATION et al.,
Respondent-Intervenors.

**STATE AND LOCAL GOVERNMENT PETITIONERS AND PUBLIC
INTEREST PETITIONERS' ADDENDUM OF STATUTES,
REGULATIONS, AND STANDING DECLARATIONS**

VOLUME B: STANDING DECLARATIONS

XAVIER BECERRA
Attorney General of California
ROBERT W. BYRNE
EDWARD H. OCHOA
Senior Assistant Attorneys General
GARY E. TAVETIAN
DAVID A. ZONANA
Supervising Deputy Attorneys General

JESSICA BARCLAY-STROBEL
JULIA K. FORGIE
MEREDITH HANKINS
KAVITA LESSER
CAROLYN NELSON ROWAN
TIMOTHY E. SULLIVAN
JONATHAN WIENER
M. ELAINE MECKENSTOCK
Deputy Attorneys General
1515 Clay Street, 20th Floor
Oakland, CA 94612-0550
Telephone: (510) 879-0299
Elaine.Meckenstock@doj.ca.gov

*Attorneys for Petitioner State of California, by and through its Governor Gavin Newsom,
Attorney General Xavier Becerra, and the California Air Resources Board
Additional parties and counsel listed on signature pages of brief filed herewith*

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NATIONAL HIGHWAY TRAFFIC
SAFETY ADMINISTRATION, *et al.*,

Respondents.

No. 19-1230

(and consolidated cases)

DECLARATION OF SYLVIA VANDERSPEK

I, Sylvia Vanderspek, declare as follows:

Relevant expertise

1. I make this declaration based upon my knowledge and expertise in the matters within, and upon my review of the relevant rulemakings, reports, and other documents discussed below. I submit this declaration in support of the State, Local Government, and Public Interest Petitioners' Brief filed in this challenge to the final actions of the United States Environmental Protection Agency and the National Highway Traffic Safety Administration, the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, Part One: One National Program," 84 Fed. Reg. 51,310 (September 27, 2019) (Actions).

2. I am the Chief of the Air Quality Planning Branch in the Air Quality Planning & Science Division at the California Air Resources Board (CARB). I have held this position since May 2013.

3. I am the lead manager responsible for the Clean Air Act state implementation planning development throughout the State, emission inventory development, and control strategy development for meeting air quality standards. The state implementation plan is required by the Clean Air Act for areas that do not meet air quality standards and describes how those air quality standards will be met by their attainment deadline. As part of the control strategy development, I oversaw the development of the 2016 Mobile Source Strategy¹ integrating the benefits of the criteria emission reductions contained in the 2016 Strategy for the State Implementation Plan with climate and toxic emission reductions.

4. In fulfilling my responsibilities as the lead manager for Clean Air Act state implementation planning throughout the State, I routinely review relevant plans and reports, and in doing so rely on my knowledge of: atmospheric modeling of air pollution, atmospheric reactions that contribute to air pollution and climate change, air pollution trends and projections, other causes of air pollution, and the health effects of air pollution. My knowledge of atmospheric modeling, including the atmospheric reactions that contribute to air pollution, is critical to my management of

¹ Mobile Source Strategy (May 2016),
<https://ww3.arb.ca.gov/planning/sip/2016sip/2016mobsrsrc.pdf>.

State Implementation Plan planning in order to identify the most effective strategies for providing healthy air for the residents of California. I also utilize my knowledge of air pollution trends and emissions, along with future emission projections, when overseeing the selection of future strategies and their impact on air quality. And as part of the State Implementation Plan planning process, I must analyze the health effects of criteria pollutants and other air pollutants.

5. Prior to this, I was the manager of the Particulate Matter Analysis Section in the Planning and Technical Support Division at CARB from February 2006 until May 2013. In this role, I supervised the development of particulate matter state implementation plans statewide and ozone state implementation plans for the San Joaquin Valley air basin. In addition, I oversaw development of the technical support analyses required to address particulate matter pollution and meet air quality standards in California.

6. Prior to that, I was a staff member of the Transportation Strategies Section in the Planning and Technical Support Division from April 2001 until February 2006 working on particulate matter and ozone implementation plans.

7. I have a Bachelor of Science in Agricultural Engineering from California Polytechnic State University, San Luis Obispo.

Clean Air Act planning obligations

8. The Clean Air Act (Act) requires states to develop and enforce state implementation plans for “nonattainment” areas, i.e., areas of the State that have air

pollution surpassing levels the federal government has deemed requisite to protect public health and the environment. The United States Environmental Protection Agency (EPA) has developed national ambient air quality standards (NAAQS) for six “criteria” pollutants.

9. The standards for two of these pollutants—ozone and fine particulate matter (PM_{2.5})—are particularly relevant in California. California suffers some of the worst air pollution in the nation. The South Coast and San Joaquin Valley air basins are the only two regions in the country with the worst—Extreme—classification for nonattainment of the federal ozone standards of 75 parts per billion (ppb). These areas also suffer some of the worst levels of fine particulate matter pollution.

10. For all of the State’s nonattainment areas, California must implement all reasonably available pollution control measures as expeditiously as practicable. California’s ozone and fine particulate matter nonattainment areas rely on immediate emission reductions to provide critical health benefits and to demonstrate attainment of the standards in those areas with near-term attainment dates.

11. For the South Coast and San Joaquin Valley air basins, there are impending deadlines to attain different NAAQS in 2022 for 1-hour ozone, 2023 for 80 ppb ozone, 2024 for 24-hour PM_{2.5}, and 2025 for annual PM_{2.5}, as well as later years. Attaining these NAAQS, especially for ozone, requires sustained, comprehensive action to reduce emissions from all categories of sources. For

instance, to achieve the ozone standards by 2031, CARB must reduce smog-forming NO_x emissions from on-road light-and heavy-duty vehicles by 85% from 2015 levels.²

12. Other areas of California also do not meet the NAAQS. For example, the Sacramento ozone nonattainment area is required to attain the 75 ppb 8-hour ozone standard by 2024.

13. If an area does not attain an air quality standard by the applicable deadline under the Clean Air Act, the consequences are substantial. One significant consequence for failing to meet a standard in the time required is additional obligations on the State to develop and submit a new plan that could lead to increased costs and restrictions on the myriad activities that cause air pollution.

California's Zero-Emission Vehicle Standards and Greenhouse Gas Emission Standards for Light-duty Vehicles Are Important for Reducing Criteria Pollution

14. California's zero-emission vehicle (ZEV) and greenhouse gas emission standards for light-duty vehicles are critical tools for reducing emissions of criteria pollutants and greenhouse gases and thereby achieving attainment of NAAQS for particulate matter and ozone.

15. Since 2009, the ZEV standards have required increased sales of ZEVs in the light-duty vehicle fleet over time. ZEVs emit fewer criteria pollutants than do

² See, e.g., CARB, Revised Proposed 2016 State Strategy for the State Implementation Plan at 7, 11 (Mar. 7, 2017), <https://ww3.arb.ca.gov/planning/sip/2016sip/rev2016statesip.pdf>.

conventional gasoline-fueled vehicles. For instance, ZEVs have zero evaporative emissions of hydrocarbons, and they have lower emissions of NO_x, carbon monoxide, and fine particulate matter. Therefore, ZEV displacement of combustion-engine vehicles, to comply with both the ZEV standard and the greenhouse gas emission standard, reduces these emissions and ambient concentrations of PM_{2.5} and ozone. In fact, in its 2016 Strategy for the State Implementation Plan, California relied on its ZEV standards as a critical component to meet the PM_{2.5} and ozone NAAQS.³ The ZEV standards are a critical component in the Extreme ozone state implementation plans for the San Joaquin Valley and the South Coast air basins.⁴

16. ZEV technology has significantly advanced since CARB adopted its greenhouse gas emission and ZEV standards beginning with the 2012 model year. As zero-emission technology has improved for light-duty vehicles, the technology has and will become available for other applications. This will lead to greater criteria, toxic, and greenhouse gas emission reductions over time. This expansion is essential for California to meet its goals and obligations to reduce emissions, as explained, for example, in CARB's 2016 Mobile Source Strategy. This comprehensive planning document describes how the State relies on zero-emission technology and other emission reductions to simultaneously meet health-based air quality standards,

³ CARB, Revised Proposed 2016 State Strategy for the State Implementation Plan (Mar. 7, 2017).

⁴San Joaquin Valley APCD, 2016 Ozone Plan for 2008 8-Hour Ozone Standard (June 16, 2016); South Coast AQMD, 2016 Air Quality Management Plan (March 3, 2017).

greenhouse gas emission reduction targets, and its other pollution-related goals.

Pertinent here, it described “actions to deploy zero-emission technologies across a broad spectrum of sources, including passenger vehicles, targeted truck and bus applications, forklifts, transport refrigeration units, and airport ground support equipment.”⁵

17. In addition, the greenhouse gas emission reductions associated with CARB’s greenhouse gas emission and ZEV standards are critical for attaining the NAAQS. Climate change is making it more difficult to attain NAAQS for ozone and particulate matter, because the concentrations of both pollutants depend strongly on temperature. Studies indicate that increasing temperatures generally cause increases in ozone concentrations in California’s polluted regions due to accelerated chemical reaction rates. The 2018 American Lung Association’s State of the Air report found that California’s ozone levels rose significantly in 2016 due to some of the warmest

⁵ Mobile Source Strategy at 7 (May 2016), <https://ww3.arb.ca.gov/planning/sip/2016sip/2016mobsrsrc.pdf>.

temperatures on record.⁶ Additional emission controls will need to be implemented to make up for the “climate penalty” that causes higher air pollutant concentrations.^{7,8,9}

18. The increased frequency of wildfires and droughts due to climate change will also impede progress toward attainment. Decades of air pollution gains within the western United States are being erased by the increasing number and severity of wildfires.¹⁰ Smoke from wildfires contains fine particulate matter, which is the most damaging size of particulate matter for human health. Similarly, climate change is increasing the frequency of droughts, which will increase wind erosion and ambient dust concentration.¹¹ As soils become increasingly dry during a drought, dust from the ground is more likely to become airborne. Particulate matter suspended in the air from these events or from wildfire smoke can increase the risk for respiratory

⁶ American Lung Association, *State of the Air 2018* at 4, <https://www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2018-full.pdf>.

⁷ D.J. Jacob & D.A. Winner, *Effect of Climate Change on Air Quality*, *ATMOS. ENVIRON.* 43, 51–63 (2009).

⁸ S. Wu, et al., *Effects of 2000–2050 Global Change on Ozone Air Quality in the United States*, *J. GEOPHYS. RES.-ATMOS.*, 113 (2008).

⁹ A.M. Fiore, et al., *Air Quality and Climate Connections*, *J. AIR WASTE MANAGE. ASSOC.* 65 (6), 645–685 (2015).

¹⁰ *Proc. Nat'l Acad. Sci.* (Jul. 16, 2018), <https://www.ncbi.nlm.nih.gov/pubmed/30012611>.

¹¹ M.C. Duniway, et al., *Wind Erosion and Dust from US Drylands: A Review of Causes, Consequences, and Solutions in a Changing World*, *ECOSPHERE* 10(3) (2019).

infections like bronchitis and pneumonia, which will result in greater health costs to the State.^{12,13}

The SAFE Part One Actions increase criteria pollutant and greenhouse gas emissions and jeopardize several of California's NAAQS attainment plans by necessitating additional emission reductions.

19. By withdrawing the Clean Air Act waiver for and declaring California ZEV and greenhouse gas emission standards for light-duty vehicles preempted, the federal Agencies' Part One Actions will result in higher criteria pollutant and greenhouse gas emissions and increase concentrations of ground-level ozone and particulate matter.

20. In particular, without enforceable ZEV sales requirements, it is reasonable to expect that there would be fewer ZEVs produced and sold and thus additional gasoline-fueled vehicles produced and sold in future years to meet the market's demand for vehicles, all else being equal. This will increase criteria pollutant emissions, as CARB modeling has confirmed. And the increase in greenhouse gas emissions resulting from preemption of both standards will also impede progress toward attaining NAAQS.

21. As a result, for each of California's current implementation plans that included the ZEV mandate, the increased emissions resulting from the Part One

¹² C. Stanke, et al., *Health Effects of Drought: A Systematic Review of the Evidence*, PLOS CURRENTS, 5 (2013).

¹³ See, e.g., C.G. Jones, et al., *Out-of-Hospital Cardiac Arrests and Wildfire-Related Particulate Matter During 2015-2017 California Wildfires*, J. AM. HEART ASSOC. 9(8) (2020).

Actions will need to be mitigated by developing additional control measures. But the implementation plans already include all reasonably available control measures and other measures necessary to attain the standards by the Clean Air Act's deadlines. Moreover, section 182(e)(5) of the Clean Air Act allows Extreme ozone nonattainment areas to anticipate development of new control techniques or improvement of existing control technologies and rely on those to demonstrate attainment in the implementation plan; CARB has already worked with the South Coast air district to include these new or improved technologies expectations into the existing implementation plan¹⁴—and this was based in part on a robust State ZEV mandate. Developing additional control measures, therefore, would be onerous in all nonattainment areas, but would be particularly hard in the South Coast and San Joaquin Valley air basins.

I certify under penalty of perjury under the laws of the State of California and the United States of America that the foregoing is true and correct.

Executed on June 22, 2020, at Sacramento, County of Sacramento, California.


SYLVIA VANDERSPEK

¹⁴ See 84 Fed. Reg. 28,132, 28,135-36 (June 17, 2019) for U.S. EPA's proposed approval of California's comprehensive plan for the South Coast air basin to meet multiple ozone NAAQS that relies on new technologies under Section 182(e)(5) of the Clean Air Act, and additional commitments from the District to reduce emissions.

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DECLARATION OF ELIZABETH SCHEEHLE

I, Elizabeth Scheehle, state and declare as follows:

Experience

1. I am currently the Chief of the Research Division of the California Air Resources Board (CARB). I have a B.S. in Earth and Atmospheric Sciences from the Georgia Institute of Technology, a Masters of Public Policy from the Kennedy School of Government at Harvard University, and a Masters of Public Health from the Bloomberg School of Public Health at Johns Hopkins University.

2. I have worked more than 20 years in climate change and air quality programs, starting at the U.S. Environmental Protection Agency (U.S. EPA) where I led national and international efforts on non-carbon dioxide greenhouse gases (GHGs). I served as an expert for the United Nations Framework Convention on

Climate Change and the Intergovernmental Panel on Climate Change (IPCC). In that role, I earned recognition for my contribution to the IPCC's Nobel Prize. I continued my career at U.S. EPA, developing its Carbon Capture and Sequestration expertise, including comprehensive risk assessment considerations.

3. I joined CARB's Research Division in 2007 and led three climate change-related efforts: carbon capture and sequestration, an ozone-depleting substance offset protocol, and an early action climate measure. I was a section manager of the Research Division's GHG Technology and Field-Testing Section before next joining the Cap-and-Trade Program in CARB's Industrial Strategies Division. In 2014, I became a Branch Chief in the Industrial Strategies Division, overseeing programs related to oil and gas operations, alternative fuel regulations, and carbon capture and sequestration.

4. In 2018, I became Chief of the Research Division. In that capacity, I oversee CARB's research program, which investigates the causes of human health and welfare impacts from air pollutant emissions and the potential for reducing those impacts through emission reduction strategies. I also lead the development and implementation of multidisciplinary research plans and studies to provide a robust scientific foundation for our air quality and climate policy decisions. In addition, the Division implements programs on indoor air quality and high global-warming-potential gas mitigation. I have broad experience with climate science and research.

5. I make this declaration based upon my knowledge and expertise in the matters within and upon my review of relevant rulemakings, reports, and other documents discussed below. I submit this declaration in support of the State, Local Government, and Public Interest Petitioners' Brief filed in this challenge to the final actions of U.S. EPA and the National Highway Traffic Safety Administration (NHTSA), the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, Part One: One National Program," 84 Fed. Reg. 51,310 (Sept. 27, 2019) ("Actions").

Climate Change

6. Climate change is driven by the accumulation of greenhouse gases in the atmosphere. Greenhouse gases retain heat that would otherwise escape back to space; increasing concentrations of greenhouse gases in the atmosphere thus cause a continuing increase of the planet's average temperature over time, which in turn disrupts established geophysical systems (such as ocean circulation) and ecosystems across the globe. Since the Industrial Revolution, the predominant source of climate-change-causing greenhouse gas emissions has been human activities. Human activities cause the emission of greenhouse gases in various ways, including deforestation and the combustion of fossil fuels for energy.

7. Of all the long-lived greenhouse gases, the ones that have the largest climate impact are carbon dioxide (CO₂), methane, and nitrous oxide; of those three, CO₂ is the most important because, even though it absorbs less heat per molecule than methane or nitrous oxide, it is more abundant and stays in the atmosphere much

longer. Before the Industrial Revolution started in the mid-1700s, the global average amount of CO₂ was about 280 parts per million. The most recent data from the National Oceanic and Atmospheric Association (NOAA) shows average global CO₂ concentrations, measured at Mauna Loa Observatory in April 2020, at 416.21 parts per million, the highest since measurements began in Hawaii in 1958.¹

8. Because of this dramatic uptick in CO₂ concentrations, the average global temperature has already risen almost one degree Celsius (1.8 degrees Fahrenheit) since pre-industrial times.² According to independent analyses by the National Aeronautics and Space Administration (NASA) and NOAA, Earth's average global surface temperatures in 2019 were the second warmest (following 2016) since measurements began in 1880, and the past five years have been the warmest of the last 140 years.³

9. The warming climate is also driving up ocean surface temperatures. The ocean has absorbed about 29 percent of global CO₂ emissions since the end of the pre-industrial era. Adding additional CO₂ to the ocean is changing the ocean's chemistry, making it more acidic and slowing its ability to take up more CO₂. If the

¹ NOAA Global Monitoring Laboratory, TRENDS IN ATMOSPHERIC CARBON DIOXIDE, <https://www.esrl.noaa.gov/gmd/ccgg/trends/>.

² IPCC, *Summary for Policymakers*, in *Global Warming of 1.5°C* (2018), https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf (The Intergovernmental Panel on Climate Change uses the reference period 1850–1900 to approximate pre-industrial temperature, as this is the earliest period with near-global observations.).

³ James Hanson, et al., *Global Temperature in 2019* (Jan. 15, 2020), http://www.columbia.edu/~jeh1/mailings/2020/20200115_Temperature2019.pdf

ocean starts to take up less CO₂, more is left in the atmosphere where it can contribute to additional warming. Furthermore, warming global and regional temperatures are contributing to rising sea levels, both from thermal expansion of the ocean itself and melting sea ice and glaciers around the world.

10. The timing of greenhouse gas emissions is also important because greenhouse gases can remain in the atmosphere for long time periods. Their warming effect is compounded by future emissions, thereby accelerating climate impacts. Carbon dioxide in particular remains in the atmosphere longer than the other major greenhouse gases emitted as a result of human activities: once emitted, 40 percent will remain in the atmosphere for 100 years, 20 percent will reside for 1000 years, and the final 10 percent will take 10,000 years to turn over. Thus, emissions now more rapidly accelerate global warming than emissions later on. As explained in the Fourth National Climate Assessment, “[w]aiting to begin reducing emissions is likely to increase the damages from climate-related extreme events (such as heat waves, droughts, wildfires, flash floods, and stronger storm surges due to higher sea levels and more powerful hurricanes).”⁴

11. The timing of greenhouse gas emissions also affects the likelihood of reaching climate tipping points. Tipping points are thresholds of abrupt and irreversible change (such as creating an irreversible shift to a hotter world with higher

⁴ U.S. Global Change Research Program, *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II*, at 1488 (2018).

sea levels, changes in ocean circulation, or near-permanent drought in some regions). The two most recent IPCC Special Reports (published in 2018 and 2019)^{5,6} suggest that tipping points could be exceeded by warming of even between 1 and 2 degrees Celsius. For instance, a recent commentary in the journal *Nature* warned that the acceleration of ice loss and other effects of climate change have brought the world “dangerously close” to tipping points.⁷ As global temperature increases, threshold environmental events are increasingly likely to occur that will themselves significantly accelerate climate change beyond current projections.

12. Because of the compounding effect of greenhouse gas emissions (particularly CO₂) and the cascade effect of tipping points, additional emissions now, which accelerate global warming and its impacts, are more harmful than additional emissions in the future.

California’s Climate Laws, Including Light-Duty Vehicle Emission Standards

13. In anticipation of, and increasingly in response to, harms from climate change, California has been proactive in taking steps to reduce greenhouse gas emissions. In 2006, California enacted Assembly Bill (AB) 32, the Global Warming Solutions Act, requiring the State to reduce its greenhouse gas emissions to 1990

⁵ IPCC, *Global Warming of 1.5°C* (2018), <https://www.ipcc.ch/sr15/>.

⁶ IPCC, *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate* (2019), <https://www.ipcc.ch/2019/09/25/srocc-press-release/>.

⁷ Timothy M. Lenton, et al., *Comment: Climate Tipping Points - Too Risky to Bet Against*, *NATURE* (Apr. 9, 2020) <https://www.nature.com/articles/d41586-019-03595-0>.

levels by 2020. This legislation directed CARB to adopt regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions. It further directed CARB to develop a Scoping Plan laying out California's strategy for meeting its climate goals, to be updated every five years. In 2016, the State Legislature set more ambitious goals in Senate Bill (SB) 32, which directs CARB to ensure that State greenhouse gas emissions are reduced 40 percent below 1990 levels by 2030.

14. As part of its efforts to reduce both greenhouse gas emissions and criteria pollutants (air pollutants with national ambient air quality standards), CARB has regulated emissions from light-duty vehicles since 1959. In 2012, CARB combined these emission standards and established its Advanced Clean Cars program. In 2013, California obtained from U.S. EPA a waiver of preemption under the Clean Air Act for each component of this program, including the State's vehicle criteria pollutant standards, greenhouse gas emission standards, and zero-emission vehicle (ZEV) mandate.

15. California's ZEV mandate is technology forcing, as it has required increasing numbers of ZEVs to be sold annually within the State since 2009.⁸ And it has been successful: sales of ZEVs have risen to more than 7 percent of new car sales

⁸ 13 Cal. Code Regs. §§ 1962.1, 1962.2.

in California, equal to more than 140,000 ZEVs and plug-in hybrids in 2019.⁹

California's ZEV mandate, if retained, would result in 1.5 million ZEVs on the road by 2025 and 4.2 million ZEVs on the road by 2030. California's light-duty vehicle greenhouse gas standards, if retained, would also have produced year-over-year reductions in greenhouse gas emissions, by about 5 percent per year for model years 2020 through 2025.¹⁰ Together, California's light-duty vehicle greenhouse gas emission standards and the ZEV mandate with its resulting technological penetration were key pieces to California's 2017 Scoping Plan update, by which the State outlined how it would meet its progressive climate obligations.¹¹

The Impacts of EPA and NHTSA's Actions

16. EPA and NHTSA's September 27, 2019 Actions will result in higher greenhouse gas emissions. In addition to preventing enforcement of standards that require greenhouse gas emission reductions, these Actions will result in fewer ZEVs sold and thus additional gasoline-fueled vehicles sold in future years. These additional gasoline-fueled cars will produce substantially more greenhouse gas emissions over their lifetimes than the ZEVs they will displace not only because gasoline-fueled vehicles produce emissions, unlike ZEVs, but also because vehicle tailpipe emissions

⁹ *E.g.*, California New Car Dealers Association, 16 CAL. AUTO OUTLOOK, no. 1, Feb. 2020, at 2, <https://www.cncda.org/wp-content/uploads/Cal-Covering-4Q-19.pdf>.

¹⁰ 13 Cal. Code Regs. § 1961.3.

¹¹ *E.g.*, CARB, *California's 2017 Climate Change Scoping Plan* at 25 (Nov. 2017), https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

substantially increase over time due to the deterioration of the emission controls. For instance, a model year 2020 gasoline-fueled vehicle overall produces about four times as many greenhouse gas emissions as a ZEV.¹²

17. Over time, these repercussions will expand. Without the critical push from the ZEV standards, we can expect ZEVs' market share to at best stagnate and not expand at the rate needed to meet California's climate and public health requirements. This loss of progressive greenhouse gas emissions reductions from expanding zero-emission technology and from increasingly stringent light-duty vehicle greenhouse gas emission standards amplifies the risk of further climate impacts California is already facing, as discussed below.

Climate Change Impacts on California

18. California is one of the most geographically and ecologically diverse regions in the world, with landscapes ranging from chaparral and grasslands to sandy beaches and rugged coastal areas to redwood rainforests and dense interior forests to snow-covered alpine mountains to dry desert valleys. Each of these regions experiences a unique combination of impacts from climate change. From record temperatures to increasingly intense wildfires¹³ to rising sea levels and increasingly

¹² CARB, *Fact Sheet: The Zero Emission Vehicle (ZEV) Regulation* (2018), https://ww2.arb.ca.gov/sites/default/files/2019-06/zev_regulation_factsheet_082418_0.pdf.

¹³ A.P. Williams, et al., *Observed Impacts of Anthropogenic Climate Change on Wildfire in California*, 7 EARTH'S FUTURE 892–910 (2019), <https://doi.org/10.1029/2019EF001210>.

acidic seas¹⁴ to less reliable snowpack,¹⁵ climate change poses an immediate and escalating threat to California's environment, public health, and economic vitality.

19. California is already experiencing the effects of climate change, and it is expected that these effects will worsen in the coming decades. For instance, average air temperatures have increased throughout the State since 1895, with the rate of increase accelerating since the 1980s. The last four years for which data are available were the hottest on record, with 2014 being the warmest, followed by 2015, 2017, and 2016. In July 2018, California experienced its hottest single month in 124 years of recordkeeping, according to NOAA's monthly summary of United States climate.¹⁶ Nighttime temperatures have also been rising faster than daytime temperatures. Warmer air temperatures alter precipitation and runoff patterns, affecting the availability of freshwater supplies. Temperature changes can also increase the risk of severe weather events, such as heat waves and intense storms. A wide range of impacts on ecosystems and on human health and well-being are associated with increased temperatures.¹⁷

¹⁴ E.B. Osborne, et al., *Decadal Variability in Twentieth-century Ocean Acidification in the California Current Ecosystem*, 13 NAT. GEOSCI. 43–49 (2020), <https://doi.org/10.1038/s41561-019-0499-z>.

¹⁵ P.W. Mote, et al., *Dramatic Declines in Snowpack in the Western US*, 1 NATURE PARTNER JS. CLIM. ATMOS. SCI. (2018), <https://doi.org/10.1038/s41612-018-0012-1>.

¹⁶ Bob Henson, *July 2018: Hottest Month in California History, Record-Wet in Mid-Atlantic*, Wunderground.com (Aug. 8, 2018), <https://www.wunderground.com/cat6/July-2018-Hottest-Month-California-History-Record-Wet-Mid-Atlantic>.

¹⁷ Office of Environmental Health Hazard Assessment, *Indicators of Climate Change*, oehha.ca.gov/climate-change/document/indicators-climate-change-california.

20. California's infrastructure is at increasing risk from climate change.

California owns and operates a wide range of physical assets and infrastructure, including the state highway system, university campuses, parks, and historic structures. These assets are worth billions of dollars, and the State uses this infrastructure to provide critical services to its residents. Climate change impacts, including sea-level rise, more severe heat days, more frequent drought, and increased risk of wildfires, heighten the risk of the State's infrastructure being damaged or lost, disruption to the State providing key services, and impairment of natural habitats within the State.¹⁸

21. In particular, melting ice from Antarctica is causing higher sea-level rise in California than the global average. California has the nation's largest ocean economy, valued at over \$44 billion per year, with the vast majority of it connected to coastal recreation and tourism as well as ports and shipping. Many of the facilities and infrastructure that support California's ocean economy—not to mention the public beaches themselves—lie within a few feet of the present high tide line. Rising sea levels from global warming thus are the main cause of the biggest impacts to California's coastal land, infrastructure, and development, through more frequent flooding and inundation as well as increased cliff, bluff, dune, and beach erosion.¹⁹

¹⁸ Legislative Analyst's Office, *Assessing Vulnerability of State Assets to Climate Change* (Jan. 9, 2020), <https://lao.ca.gov/Publications/Report/4133>.

¹⁹ G. Griggs, et al. (California Ocean Protection Council Science Advisory Team Working Group), *Rising Seas in California: An Update on Sea-Level Rise Science*. California Ocean Science Trust (Apr. 2017).

22. In addition, a warming climate in the western United States is causing changes to the wildfire regime, with wildfires increasing in frequency, duration, and severity in the western United States.^{20,21,22} A 2016 study published in Proceedings of the National Academy of Sciences concluded that anthropogenic climate change has doubled the cumulative wildfire area burned in the West during 1984–2015.²³ California’s annual wildfire extent has increased fivefold since the 1970s, aided by extremely large and destructive wildfires in 2017 and 2018. This trend was mainly due to an eightfold increase in summertime forest-fire area and was very likely driven by drying of fuels promoted by human-induced warming.²⁴ Continued climate change will further amplify the number of days with extreme fire weather by the end of the century (absent any additional actions taken in accordance with the U.N. Paris commitments).²⁵

²⁰ Anthony LeRoy Westerling, *Wildfire Simulations for the Fourth California Climate Assessment: Projecting Changes in Extreme Wildfire Events with a Warming Climate in California’s Fourth Climate Change Assessment*, Cal. Energy Commiss’n, Pub. No. CCCA4-CEC-2018-014 (2018), http://www.climateassessment.ca.gov/techreports/docs/20180827-Projections_CCCA4-CEC-2018-014.pdf.

²¹ J.K. Balch, et al., *Human-started Wildfires Expand the Fire Niche Across the United States*, 114(11) Proc. of the Nat’l Acad. of Sci. 2946–51 (2017), <https://doi.org/10.1073/pnas.1617394114>.

²² Kasha Patel, *6 Trends to Know about Fire Season in the Western U.S.*, NASA, Earth Matters (Nov. 29, 2018), <https://earthobservatory.nasa.gov/blogs/earthmatters/category/natural-hazards/>.

²³ B.J. Harvey, *Human-caused Climate Change is Now a Key Driver of Forest Fire Activity in the Western United States*, 113 Proc. of the Nat’l Acad. Sci. USA 11649–50 (2016).

²⁴ A.P. Williams, et al., *Observed Impacts of Anthropogenic Climate Change on Wildfire in California*, 7 EARTH’S FUTURE 892–910 (2019), <https://doi.org/10.1029/2019EF001210>.

²⁵ Michael Goss, et al., *Climate Change is Increasing the Risk of Extreme Autumn Wildfire Conditions Across California*, ENVTL RES. LETTERS (2020), DOI: [10.1088/1748-9326/ab83a7](https://doi.org/10.1088/1748-9326/ab83a7).

23. California's Fourth Climate Change Assessment²⁶ states that "[c]limate change will make forests more susceptible to extreme wildfires" and suggests that climate change will lead to wildfires in the next few decades that will be unprecedented in size and severity.²⁷ If greenhouse gas emissions continue to rise, one study found that by 2100 the frequency of extreme wildfires burning 25,000 acres or more would increase by nearly 50 percent and average area burned statewide would increase by 77 percent.²⁸

24. Climate change also exacerbates other air pollution problems throughout California. Increasing temperatures generally cause increases in ozone concentrations in California's polluted regions.²⁹ Increasing frequency and intensity of wildfires is already having a measurable effect on air quality.³⁰ And particulate matter exposure is a heightened problem during droughts, which climate change is also anticipated to exacerbate in California as changes in weather patterns block rainfall from reaching

²⁶ CA.GOV, California's Fourth Climate Change Assessment, <http://www.climateassessment.ca.gov/>.

²⁷ State of California, *California's Fourth Climate Change Assessment: Statewide Summary Report* at 9 (2018), https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf.

²⁸ *Id.*

²⁹ *E.g.*, American Lung Association, *State of the Air 2018* at 4, <https://www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2018-full.pdf>.

³⁰ Proc. of the Nat'l Acad. Sci. USA (Jul. 16, 2018), pii: 201804353, doi: 10.1073/pnas.1804353115, <https://www.ncbi.nlm.nih.gov/pubmed/30012611>; *see also* X. Liu, et al., *Airborne Measurements of Western U.S. Wildfire Emissions: Comparison with Prescribed Burning and Air Quality Implications*, 122 J. GEOPHYS. RES. ATMOS. 6108-29 (2017), doi:10.1002/2016JD 026315 (showing that wildfires emit fine particulate matter at over three times the level previously estimated).

the State.^{31,32} Worse air quality leads to increased risk for respiratory infections like bronchitis and pneumonia, which will result in greater health costs to the State.^{33,34,35}

25. Increasing greenhouse gas emissions, due to the federal agencies' Actions, will worsen these climate impacts throughout California.

I certify under penalty of perjury under the laws of the State of California and the United States of America that the foregoing is true and correct to the best of my knowledge and belief.

Executed on June 22, 2020, at Sacramento, County of Sacramento, California.



ELIZABETH SCHEEHLE

³¹ A.P. Williams, et al., *Contribution of Anthropogenic Warming to California Drought During 2012-2014*, 42 GEOPHYS. RES. LETT. 6819–28 (2015), <http://doi.org/10.1002/2015GL064924>.

³² I. Cvijanovic, B.D. Santer, C. Bonfils, C. et al., *Future Loss of Arctic Sea-ice Cover Could Drive a Substantial Decrease in California's Rainfall*, 8 NAT. COMMUN. 1947 (2017), <https://doi.org/10.1038/s41467-017-01907-4>.

³³ John A. Romley, Andrew Hackbarth & Dana P. Goldman, *Cost and Health Consequences of Air Pollution in California*, Santa Monica, CA, RAND Corp. (2010), https://www.rand.org/pubs/research_briefs/RB9501.html.

³⁴ M. Wang, C.P. Aaron, J. Madrigiano, et al., *Association Between Long-term Exposure to Ambient Air Pollution and Change in Quantitatively Assessed Emphysema and Lung Function*, 322(6) J. AM. MED. ASSOC. 546-56 (2019), doi:10.1001/jama.2019.10255.

³⁵ A. Inserro, *Air Pollution Linked to Lung Infections, Especially in Young Children*, AM. J. MANAGED CARE (May 6, 2018), <https://www.ajmc.com/newsroom/air-pollution-linked-to-lung-infections-especially-in-young-children>.

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

UNION OF CONCERNED
SCIENTISTS, *et al.*,

Petitioners,

v.

NATIONAL HIGHWAY TRAFFIC
SAFETY ADMINISTRATION, *et al.*,

Respondents.

No. 19-1230
(and consolidated cases)

DECLARATION OF JAY CHAMBERLIN

I, Jay Chamberlin, state and declare as follows:

1. I submit this declaration in support of the State of California's standing to challenge the final actions of the United States Environmental Protection Agency ("EPA") and the National Highway Traffic Safety Administration ("NHTSA"), the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, Part One: One National Program," 84 Fed. Reg. 51,310 (Sept. 27, 2019) ("Actions"). I make this declaration of my own personal knowledge, unless otherwise indicated.

2. I am the Chief of the Natural Resources Division of the California Department of Parks and Recreation ("DPR"), a position I have held since 2010. I have worked in the conservation field for more than 20 years. I received a Masters of

Science in Natural Resources and Environment from the University of Michigan in 1998. Prior to my current position, I served as Environmental Program Manager at the California Department of Water Resources from 2008 to 2010, and Deputy Assistant Secretary at the California Natural Resources Agency from 2005 to 2008. I have also worked as a consultant to the Ecosystem Restoration Program for the California Bay-Delta Authority, and as Policy Manager for the Pacific Forest Trust, where my work focused on climate projects and policies.

3. I regularly give presentations on climate change and its impacts to the California State Park System, and on plans, management practices, and policies for addressing those impacts. I have given such presentations to professionals, students and other audiences, including, for example, the California State Assembly's Select Committee on Sea Level Rise and the California Economy. I have also given a series of climate change presentations and updates (in January 2018, September 2018, and May 2019) to the California State Parks and Recreation Commission, the body with authority for guiding policy for the State Park System.

4. DPR manages the California State Park System, which consists of 280 park units and approximately 1.6 million acres of land. Parks are located in every bioregion of California, and the State Park System protects some of the most important natural resources in California, including old growth forests, grasslands, woodlands, lakes and reservoirs, habitat for native and rare wildlife, and roughly one-quarter of the California coastline. The State Park System also protects the largest

assemblage of cultural resources in California, including historic buildings and archaeological sites. The State Park System receives in excess of 80,000,000 visitors per year, and it is the primary destination for shoreline recreation in California.

5. I am familiar with scientific studies and models related to global climate change and with evidence of the influence that climate change is having on resources in the State Park System. My knowledge is based on my ongoing review of the current scientific literature, attendance and participation at professional conferences, trainings, and workshops, and my work for DPR.

6. For years, DPR staff have been engaged in active management, documentation, and monitoring of resource conditions throughout the State Park System. Many of the specific threats to biological diversity and native species that have emerged in recent years are attributable to, or compounded by, the influence of climate change. Climate-influenced impacts on State Park System resources include accelerated coastal erosion, the spread of pests and pathogens (such as bark beetles), changes in phenology (the timing of seasonal natural phenomena such as blossoms on trees or flowers), alterations to wildlife health and behavior, and increases in the frequency and severity of wildfires. These changes in natural systems due to climate change damage the land, native plants, and wildlife that are the primary natural resources of the State Park System. In the course of my work, I have reviewed information and reports by DPR and other agency staff concerning these phenomena.

7. Scientific models of global climate change— which link the buildup of greenhouse gases (“GHGs”) to increased global temperatures— predict that by the year 2100 the average annual maximum daily temperature in California will increase by 5.6 to 8.8 degrees Fahrenheit. Scientific studies and models further predict that— as a result of increased temperatures, and consequent thermal expansion and glacial ice melt, caused by GHG emissions— by 2100, mean sea levels along the coast will rise between 1 and 7 feet, greatly exacerbating the effects of wave run up (the upper level reached by a wave on a beach) and storm surges. Due to uncertainty in the models, actual mean sea level rise could well exceed the predicted levels by considerable margins. Also, sea level rise will vary by location, and certain areas could experience sea levels that exceed the predicted mean levels.

8. Based upon my professional experience and knowledge of California’s State Park System, if the predicted changes in temperature, precipitation, and sea level occur, they would have significant adverse and costly impacts on the State Park System, including those I summarize below. Additional emissions of greenhouse gases will continue to drive climate change and worsen these impacts in the future.

9. Rising sea levels will drastically reduce the amount of beach available for shorebirds, including threatened and endangered species. In fact, many of California’s beaches, including many in the State Park System, such as Crystal Cove in Orange County, are narrow bands of sand backed by steep cliffs. If the sea level rises even a few inches, the beaches will not simply move inland, but will completely disappear.

Also, any additional rise in sea level will affect the salinity, temperature, and hydrology in California's many estuaries and lagoons, thereby harming the aquatic life—including rare, threatened and endangered fish—that rely on estuaries for breeding or rearing. In addition, sea level rise threatens infrastructure in the more than 100 coastal units of the State Park System, including numerous campgrounds, trails and roads, and other facilities, including water and waste systems that exist along the ocean's edge. The reduced or destroyed beaches, coastal estuaries, lagoons, and wetlands and the destruction of other fish and wildlife habitats are material impacts to State trust resources. Moreover, damaged infrastructure will also negatively impact the ability of visitors to access the coast, another material impact to one of the purposes of State Beaches, which provide for recreational access to the coast. Finally, sea level rise will negatively impact the balance of payments of the State—as revenues from visitors may decline even as costs to maintain, restore, and protect park resources and facilities increase.

10. In addition, the California State Park System includes many important cultural resources, including archeological and historic sites, such as Native American sites, 18th century missions, historic lighthouses and piers, and buildings, including historic campgrounds and other sites constructed by the Civilian Conservation Corps. These kinds of resources are irreplaceable, and the protection or documentation of cultural resources that would be inundated by sea level rise would be very expensive. For instance, even a small rise in sea level will erode or inundate many of the State

Park System's ancient shell middens. These cultural resources, which contain remnants from California's earliest human residents, dating back thousands of years, would be permanently lost for their descendants and for visitors and researchers as well.

11. Global climate change models in combination with other predictive studies also suggest that wildfires will increase in frequency and severity. The State's recent experiences concerning wildfires are generally consistent with these predictions. In 2017, California had the highest average summer temperatures in recorded history. Over the last 40 years, California's fire season has increased 78 days—and in some places in the State the fire season is nearly year-round. Fifteen of the 20 most destructive wildfires in the State's history have occurred since 2000, with 10 of the most destructive occurring since 2015.

12. Increases in the frequency and severity of wildfires will have a significant impact on the State Park System. DPR and its allied agencies, including the California Department of Forestry and Fire Protection, currently expend significant resources both to protect park infrastructure and natural and cultural resources from wildfires, and to prevent these fires. Growing wildfire activity also increases the risk that irreplaceable resources will be lost, including historic structures. Over the last 15 years, several state parks have been impacted by wildfires, and the increasing frequency of wildfires has become a more important problem for the State Park System. For example, the October 2017 Wine Country fires in Napa and Sonoma

Counties burned through several state parks, including Trione-Annadel State Park, Sugarloaf Ridge State Park, and Robert Louis Stevenson State Historic Park, and threatened Jack London State Historic Park.

13. Observed changes, along with global climate change models, also suggest that coastal fog declines observed in recent decades could accelerate due to GHG-driven warming and changed ocean circulation. Diminished fog would have a severe and damaging impact on natural forest types that are dependent upon fog, including the endangered Torrey pine, the Monterey pine, and the Coast redwood. In addition to their ecological importance, these forest types draw many visitors to the State Park System, and a decline in these forests would constitute a critical impact on the natural resources of the State Park System and would result in fewer visitors and a loss of revenue to DPR.


14. DPR also manages several parks in winter snow areas, as well as the Sno-Park Program for California, which provides the public roadside access to winter sports recreation. Global climate change models and other studies predict reductions in winter-spring snowpack, which would result in loss of recreational opportunities and increased flooding downstream, along with operational challenges and associated costs at reservoir parks. It may also reduce associated revenues from the Sno-Park Program.

15. While significant and unavoidable impacts from climate change are already impacting the resources of the State Park System as summarized above, the

most extreme impacts of climate change on the State Park System likely depend on current and future greenhouse gas emissions and measures taken to reduce those emissions. Increased emissions of GHGs from motor vehicles in California and other States due to the federal Agencies' Actions will result in increased impacts to the State Park System of the type I have described in this declaration. Conversely, the decreased GHGs that would result from vacating the federal Actions would reduce or mitigate those harms.

I state under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my knowledge and belief.

Executed on June 18, 2020 in SACRAMENTO, California.



JAY CHAMBERLIN

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

UNION OF CONCERNED
SCIENTISTS, *et al.*,

Petitioners,

v.

NATIONAL HIGHWAY TRAFFIC
SAFETY ADMINISTRATION, *et al.*,

Respondents.

No. 19-1230
(and consolidated cases)

**DECLARATION OF SARAH REES ON BEHALF OF PETITIONER
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

I, Sarah Rees, declare:

1. I submit this declaration in support of the standing of Petitioner Air Districts to challenge the final actions of the United States Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA) to preempt California's state greenhouse gas emission and zero-emission vehicle standards for light-duty vehicles, the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, Part One: One National Program," 84 Fed. Reg. 51,310 (Sept. 27, 2019). The following statements are true and correct to the best of my knowledge and belief and are based on my

own personal knowledge or on information supplied to me by employees under my supervision.

2. I am the Assistant Deputy Executive Officer in the Planning, Rule Development, and Area Sources Division at the South Coast Air Quality Management District (“District”). I have a managing role in the implementation of transportation and mobile source programs, as well as the development of the Air Quality Management Plan (or “attainment plan”) for areas under the District’s jurisdiction. My professional background includes more than twenty years of management experience in air quality and climate change matters at state and federal levels and a PhD in Engineering and Public Policy from Carnegie Mellon University.

About the District

3. The District is a political subdivision of California responsible for air pollution control in the Los Angeles metropolitan area and parts of surrounding counties that make up the South Coast Air Basin. The South Coast Air Basin is home to the economic base for more than 16.9 million people and spans 10,743 square miles, and it faces the most challenging, persistent air quality problems in the nation. The South Coast Air Basin violates several National Ambient Air Quality Standards (NAAQS) for pollutants under the Clean Air Act. Of greatest priority, the South Coast Air Basin is designated extreme nonattainment for multiple 8-Hour Ozone Standards (1997, 2008, and

2015). The South Coast Air Basin is also designated nonattainment for fine particulate matter, i.e., the PM-2.5 (2006 and 2012) NAAQS. 40 C.F.R. § 81.305.

4. Pollution from stationary and mobile sources—compounded by geography and climate in the region—negatively impacts human health and welfare in the region on a massive scale. To illustrate, well over three-fourths of the nation’s population living in any area designated serious, severe or extreme for ozone pollution resides in the District’s jurisdiction.
5. The Clean Air Act requires each State to address its nonattainment areas by developing plans for how the areas will eventually comply with the National Ambient Air Quality Standards. 42 U.S.C. §§ 7407(a), 7410. Under California law, the District is responsible for preparing that portion of the State Implementation Plan required under Section 110 of the Clean Air Act, 42 U.S.C. § 7410, applicable to its geographic jurisdiction. Cal. Health & Safety Code §§ 40460–40470.

Sources of Air Pollution

6. The District uses emission inventories to help determine significant sources of air pollutants and to target regulatory actions. Consistent with this, the Clean Air Act requires attainment plans to use a “comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant.” 42 U.S.C. § 7502(c)(3). According to the District’s inventory, emissions from

mobile sources, including passenger automobiles and light trucks, represent over 80% of nitrogen oxide (NO_x) pollution in the region. NO_x is a leading precursor to ozone formation, and the control of NO_x, including from mobile sources, is essential for the District to meet the ozone NAAQS.

7. The District is required by statute to attain the 2008 ozone standard no later than 2031. Attainment by this date is numerically impossible without further reductions of smog-forming pollutants either through the California Air Resources Board's (CARB) mobile source programs or through Federal requirements for mobile sources under Title II of the Clean Air Act.

Need for Zero-Emission Technologies

8. Zero-emission technologies are advanced technology or control equipment that generate zero end-use emissions from stationary or mobile source applications. Zero Emission Vehicles, or ZEVs, are vehicles that produce no emissions from their on-board source of power. For on-road light- and medium-duty vehicle categories, zero-emission technologies are already commercialized and being rapidly introduced in large part due to the CARB Advanced Clean Cars Program, which includes the ZEV program. Air pollution conditions in the South Coast Air Basin call for further deployment of zero-emission technologies for various mobile sources, including already-commercialized technology for passenger vehicle types covered by the ZEV program.

9. The ozone NAAQS cannot be achieved solely by stationary source emission reductions, and even wholesale elimination of those emissions could not achieve the NAAQS. The District lacks direct authority to regulate manufacture and sale of mobile sources and depends on CARB and U.S. EPA to develop and adopt enforceable emission standards for all mobile source types.
10. The actions of EPA and the National Highway Traffic Safety Administration (NHTSA) under the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program,” 84 Fed. Reg. 51,310 (September 27, 2019) (“SAFE Rule Part One”), injure the District and its interests. Specifically, the agencies’ actions to declare California’s standards preempted and to withdraw the Clean Air Act Section 209 waiver for those standards injure the District because the District’s planning process for attaining the NAAQS accounts for and relies upon mobile source emission reductions from California’s Clean Cars Program, including its ZEV program. The District’s future planning process is impaired, because the District has consistently acknowledged that meeting the NAAQS will require increasing deployment and market penetration of zero-emission technologies.¹

¹ South Coast Air Quality Management District, *Final 2016 Air Quality Management Plan*, at 29 (Preface), available at <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15>

Reliance on Mobile Source Emission Reductions

11. The District's latest Air Quality Management Plan specifically depends on reductions from CARB's Advanced Clean Cars Program, which include its ZEV program. The District relied on these reductions in multiple ways. First, the emission reductions from Advanced Clean Cars Program and the latest amendments to the ZEV program were made enforceable in State of California by U.S. EPA's action in 2013 to grant a waiver of preemption under Section 209(b) of the Clean Air Act. 78 Fed. Reg. 2,112 (January 9, 2013). Second, the U.S. EPA approved reliance on these reductions for air quality planning when it approved the use of the 2014 version of the EMFAC model (short for "EMission FACtor" model). 80 Fed. Reg. 77,337 (December 14, 2015). Approved versions of the EMFAC model are used in California to calculate air pollution emission factors from several types of mobile sources, and EPA acknowledged this approved version had included "emission reductions associated with CARB's Advanced Clean Cars regulations." *Id.* at 77,338. These reductions thus appear in the baseline emissions inventory for the attainment plan. Last, EPA made the requirements of the ZEV program federally enforceable by their approval into the State Implementation Plan. 81 Fed. Reg. 39,424 (June 16, 2016).

Emission Impacts of Agencies' Actions on ZEVs

12. EPA and NHTSA did not finalize any new and amended GHG and Corporate Average Fuel Economy (CAFE) standards for model year 2021 to 2026 in their SAFE Part One Actions. Instead, the agencies finalized that rollback in the later final action, “The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks,” 85 Fed. Reg. 24,174 (Apr. 30, 2020), which relaxed applicable Federal GHG standards from 5% year-on-year improvements down to mere 1.5% year-on-year increases.² The actions at issue in here, however, exposed California and the South Coast Air Basin to the air pollution impacts of the agencies’ weakened national standard. The actions at issue here also cause air pollution impacts, specifically via the nullification of CARB’s ZEV program. These increases injure the District both by adding to the pollution burden of the South Coast Air Basin, and by making it more difficult and onerous for the District to devise plans to meet air quality standards.
13. I am familiar with off-model adjustment CARB published for 2014 and 2017 versions of EMFAC that EPA previously approved for use in the development of State Implementation Plans.³ These adjustments take account of the

² “The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks,” 85 Fed. Reg. 24174 (April 30, 2020)

³CARB Staff Document, “EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Part One,” November 20, 2019, https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf?utm_medium=email&utm_source=govdelivery

emissions impacts attributable to the “The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program,” 84 Fed. Reg. 51310 (September 27, 2019). Specifically, these adjustments hold future year ZEV sales constant at model year 2020 levels instead of showing legally-required increasing sales under the ZEV mandate that EPA had approved in the State Implementation Plan.⁴ These adjustments recognize that the projected fleet for 2021 and beyond will have a lower number of future ZEVs and a correspondingly greater number of future gasoline internal combustion engine vehicles.

14. EMFAC provides tailpipe and evaporative emissions for the inventory. Even though “fleet average” standards as found in CARB’s Advanced Clean Cars program can include ZEV sales toward satisfaction of fleet averaged requirements, those standards do not take account of certain pollutants (e.g., particulate matter and carbon monoxide), do not capture emissions from all operating conditions, and do not account for how tailpipe and evaporative criteria pollutant emissions substantially increase over time due to deterioration of the emission controls on gasoline-vehicles. Though fleet-average standards

⁴ In a letter to CARB dated March 12, 2020, an EPA official indicated the EMFAC off-model adjustment factors to account for SAFE Vehicle Part One could be used in State Implementation Plan applications in California.

can offset a portion of increases that come with eliminating the ZEV program, this will not forestall major increases in ozone-forming pollution.

15. The District faces a Clean Air Act mandate to attain the 2008 NAAQS for ozone by 2031. Using EMFAC2014, as was used in developing the District's attainment plan for this NAAQS, District staff has calculated the emission increases from vehicles alone due to the ZEV mandate rollback. By the year 2023, ozone precursor emissions will already be well over ten tons per year (11.8 tons VOC evaporative, 1.0 VOC exhaust, 6.0 NO_x exhaust). By the attainment year of 2031, ozone precursor emissions will exceed 140 tons per year (106.7 tons VOC evaporative, 3.6 tons VOC exhaust, 37.4 tons NO_x exhaust). Moreover, the impacts of the ZEV rollback enlarge and persist even further into the future, including the attainment date of August 2038 set by the 2015 NAAQS for ozone. Thus, because of the agencies' actions, the District faces an increased pollution burden that it has a legal mandate to reduce.

Impact to District's Attainment Planning Process.

16. In addition to the increase in the pollution burden that the District must reduce to attain the NAAQS, the agencies' actions also weaken or outright remove important tools the District relies on to develop attainment plans. NHTSA's action directly removes the current ZEV program and preempts any future ZEV mandate that California may develop. EPA's action for the first time in history revoked a previously granted waiver, notwithstanding its use in

approved State Implementation Plans, making future waiver-based standards less certain for the District's long-term planning process.

Failure to Make a General Conformity Determination.

17. The District submitted extensive comments on the agencies' proposed actions, including a lead-off comment that EPA must comply with the Clean Air Act's general conformity requirements, which prohibit federal agency actions and activities that do not conform to a state's approved attainment plan. The stated focus of the District's objection was EPA's proposed action to revoke approved waiver measures and, specifically, to undercut the ZEV standards that EPA had approved into California's State Implementation Plan in 2016. The District also cited to EPA's regulations which mandate that federal agencies undertake a conformity determination for "any activity" that is not exempt and would cause new emissions to exceed threshold emission rates set forth in 40 C.F.R. § 93.153(b), including the relevant threshold of ten tons per year that applies to extreme nonattainment areas such as the South Coast Air Basin. EPA finalized its action without responding to the District's comments on the general conformity requirements.

18. When increased emissions are greater than the threshold amount to necessitate a general conformity determination, as the District had asserted in its comments, a demonstration of conformity must be made with "emission reductions from an offset or mitigation measure," including the possibility of

offsetting reductions at a specified 1.5-to-1 ratio. *See* 40 C.F.R. § 93.163. EPA's failure to make a conformity determination injures the District by depriving it of the analysis that would oblige the federal government to provide for offsets or mitigation measures. EPA's action further harms the District's ability to develop plans to meet air quality standards.

Procedural Injuries under NEPA

19. Because NHTSA failed to engage in any process under the National Environmental Policy Act (NEPA), the District was deprived of both the opportunity to comment on the environmental impacts, and the information that such an impact statement necessarily provides, to better understand the direct, indirect, and cumulative impacts of the agency's decision. As the District is responsible for the long-term planning for attainment of the NAAQS in the South Coast Air Basin, failing to perform an assessment of the full range of impacts from the loss of the ZEV mandate (which is integral to the attainment plan) is itself an injury to the District, because the District would otherwise incorporate such information into the data review, analysis and modeling it does for its attainment planning process.
20. Air pollution impacts in the South Coast Air Basin would have been acknowledged by both agencies had NHTSA engaged in the procedural process required by NEPA. The NEPA process, including the provision of a detailed Environmental Impact Statement for major federal actions, would have added

to the modeling and assessment of direct, indirect, and cumulative impacts from NHTSA's action. Such analysis could impact the scope of both agencies' actions.

21. For example, had it been afforded an opportunity to review and comment upon an Environmental Impact Statement that evaluated other actions, the District would have commented on how a proposal more in keeping with court decisions on the Energy Policy Conservation Act could reduce the emissions harms to the South Coast Air Basin. Specifically, a scenario where the agencies would relax federal standards for some other parts of the Country, while recognizing the continuing force of California's vehicle standards and ZEV mandate, would have significant benefits to the South Coast Air Basin and potentially mitigate broader adverse effects. The District did comment that NHTSA must analyze this alternative. Because NHTSA declined to perform any NEPA analysis in finalizing its action, the comment went unconsidered. Likewise, EPA, though not bound to perform a NEPA analysis for its own action, would nonetheless be bound to consider available information and would have had a better assessment from which to make a conformity determination, which is designed to offset the harms to the South Coast Air Basin.

Injury to Interest in the Continued Enforceability of District Rules

22. The District does not impose standards on manufacturers relating to new vehicle emissions. However, it does assert historic power to adopt use and operation regulations to control emissions from fossil-fuel combustion. Cal. Health & Safety Code §§ 40716, 40717; see 42 U.S.C. § 7543(d).
23. In 1995, the District first adopted District Rule 2202, entitled “On-Road Motor Vehicle Mitigation Options,” which is designed to reduce mobile source emissions from employee commutes. Under this rule, employers are entitled to credits toward emission reduction targets for employees and carpools arriving to work using a ZEV. Additionally, employers may elect to implement commute reduction strategies that may include incentives for employees to acquire and use ZEVs in their commutes. Any failure to implement an emission reduction program, including strategy components relating to ZEVs, is subject to enforcement by the District. NHTSA’s regulation on preemption presents concrete injury to Plaintiff South Coast District’s interest in the continued enforceability of District Rule 2202.
24. The District also enforces District Rule 1194, entitled “Commercial Airport Ground Access,” as it applies to private entities under contract to state or local public entities. In submitting comments on NHTSA’s proposed preemption regulation, the District requested that NHTSA acknowledge that EPCA preemption does not disturb local governmental authority to impose requirements on nongovernmental parties contracted to provide governmental

or public goods and services. Rule 1194 applies, *inter alia*, to certain private fleet operators that provide passenger transportation services under contract to a governmental airport authority. The Rule requires fleet operators to procure or lease cleaner vehicles; vehicles certified to meet ZEV emissions standards are a compliance option to meet the rule's fleet purchase requirement. NHTSA ignored the District's comment. NHTSA's regulation on preemption is a concrete injury to the District's interest in the continued enforceability of Rule 1194.

25. The District also has authority to adopt an "indirect source review program" under Clean Air Act Section 110(a)(5)(A)(i), 42 U.S.C. § 7410(a)(5)(A)(i). An indirect source is defined as a "facility, building, structure, installation, real property, road, or highway which attracts or may attract, mobile sources of pollution." 42 U.S.C. § 7410(a)(5)(C); Cal. Health & Safety Code § 40716. Mobile source activities at indirect sources are subject to regulation, and such regulations may require or incentivize the use of zero emission technologies, including ZEVs. The District has an avowed planning need for reliance on this authority (or for voluntary substitute reductions) as set forth in its 2016 Air Quality Management Plan to meet the NAAQS for ozone and particulate matter.⁵ NHTSA's regulation on preemption injures the District

⁵ See South Coast Air Quality Management District, Final 2016 Air Quality Management Plan (March 2017), pgs. 4-25 to 4-29, EPA-R09-OAR-2019-0051.

by potentially limiting its authority to reduce or mitigate emissions from indirect sources.

Impacts to Programs Promoting Commercial Adoption and Use of ZEVs

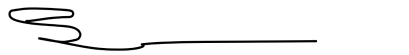
26. The District runs several incentive programs to promote commercial adoption and use of ZEVs. These programs include an incentive pilot program to offset the costs of hardware for residential electric vehicle charging and the “Replace Your Ride” program that provides funds to income-eligible vehicle owners who elect to replace their older vehicles with electric vehicles. These incentive programs mean to spur increased consumer adoption of electric vehicles to achieve air quality benefits. The long-term certainty of the ZEV mandate is a critical component to incentive program planning and is needed to assure program success and the fullest realization of the air quality and other benefits of these expenditures and commitments.

27. NHTSA’s preemption regulation and EPA’s action to withdraw the waiver of preemption for California’s ZEV mandate each work to eliminate legal inducements for automobile manufacturers to make electric vehicle replacement options available to consumers according to the numbers and schedule that EPA approved in the State Implementation Plan. The District’s incentive programs are meant to work in tandem with the ZEV mandates to further encourage and accelerate consumer adoption of ZEVs to achieve air quality improvements. The actions of NHTSA and EPA undermine these

incentive programs and their projected environmental benefits, causing injury to the District's economic and pecuniary interests in having efficacious incentive programs.

28. The District expects future attainment of the NAAQS will depend on the adoption of ZEV mandates for other mobile source categories, including heavy-duty vehicles. The ZEV mandate works, in part, to help develop technology and infrastructure that will help advance commercialization of ZEV technology for other vehicles and mobile sources. The actions of NHTSA and EPA create legal and practical barriers to the adoption of future ZEV mandates for categories of mobile sources other than motor vehicles, which hinders the District's abilities to develop plans to meet the NAAQS.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed this 18th day of June, 2020, in Los Angeles County, California.



Sarah Rees

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

UNION OF CONCERNED
SCIENTISTS, *et al.*,

Petitioners,

v.

NATIONAL HIGHWAY TRAFFIC
SAFETY ADMINISTRATION, *et
al.*,

Respondents.

No. 19-1230
(and consolidated cases)

DECLARATION OF FRANK KOHLASCH

I, Frank Kohlasch, state and declare as follows:

1. I am the Climate Director for the Minnesota Pollution Control Agency (MPCA). In my role as Climate Director, I am responsible for Minnesota's greenhouse gas (GHG) emissions inventory, as well as the MPCA's policies to mitigate and adapt to climate change in Minnesota. I have personal knowledge and experience with the Clean Cars Minnesota rulemaking as well as Minnesota's other state programs to reduce GHG emissions from the transportation sector, and

state and regional scale analyses of policies and strategies to reduce GHG emissions from all sources in Minnesota.

2. The purpose of this declaration is to describe Minnesota's process to adopt its Clean Cars Minnesota Rule and the impact that this litigation has on our State's ability to implement the Rule.

3. I submit this declaration in support of the State of Minnesota's standing to challenge the final actions of the United States Environmental Protection Agency ("EPA") and the National Highway Traffic Safety Administration ("NHTSA"), the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, Part One: One National Program," 84 Fed. Reg. 51,310 (Sept. 27, 2019) ("Actions"). I make this declaration of my own personal knowledge, unless otherwise indicated.

3. My educational background includes a Juris Doctorate from Hamline University School of Law, a Bachelor's of Science in Chemistry from Fort Hays State University, and graduate level coursework at the University of Minnesota in environmental chemistry, environmental toxicology, environmental health, and at Washington State University in advanced analytical chemistry. I have worked in environmental analysis, environmental data, and climate change programs for the

MPCA for 24 years. For the last 11 years, I have been directly responsible for the development and implementation of GHG reduction policies for the State of Minnesota, as well as GHG emissions inventory development, reporting, and analysis. I have experience and interest in the formation of fine particles and ozone, mercury emissions, air monitoring, environmental justice, regional haze control, air modeling, risk and science communication, and carbon regulations.

4. On September 25, 2019, Minnesota Governor Tim Walz directed the MPCA to initiate a rulemaking to adopt the Zero Emission Vehicle (“ZEV”) program and the Low Emission Vehicle (“LEV”) standards developed by California, which the MPCA refers to as “Clean Cars Minnesota.” The MPCA is pursuing this rulemaking to address two major air pollution challenges facing Minnesota: the greenhouse gas emissions that are causing climate change and the emissions of criteria air pollutants.

5. Minnesota’s climate is already rapidly changing and is projected to continue to change for the foreseeable future.¹ The Next

¹ Minnesota Department of Natural Resources, Climate Trends. https://www.dnr.state.mn.us/climate/climate_change_info/climate-trends.html (referenced June 10, 2020).

Generation Energy Act, Minn. Stat. § 216H.02, subd. 1, establishes a statewide goal “to reduce statewide greenhouse gas emissions across all sectors producing those emissions to a level at least 15 percent below 2005 levels by 2015, to a level at least 30 percent below 2005 levels by 2025, and to a level at least 80 percent below 2005 levels by 2050.” The MPCA develops a biennial inventory of GHG emissions in the state. The most recent inventory and report released in 2019, “Greenhouse gas emissions in Minnesota: 1990-2016,”² showed that Minnesota did not meet its 2015 goal and is not on track to achieve the 2025 or 2050 goals.

6. Transportation is now the largest emitter of GHGs in Minnesota. To date, the transportation sector has only seen about an 8% GHG emission reduction since 2005, and transportation accounts for about a quarter of overall GHG emissions in Minnesota. Surface transportation includes on-road vehicles such as cars, trucks, buses and motorcycles, and accounts for most of the transportation sector’s GHG emissions. Within the surface transportation category, light-duty and medium-duty vehicles account for 74% of the subsector’s emissions. It is therefore necessary to achieve significant emissions reductions from

² MPCA GHG emissions inventory, 2019. <https://www.pca.state.mn.us/air/greenhouse-gas-emissions-data>.

light-duty and medium-duty vehicles in order to address GHG emissions from transportation.

7. In 2019, the Minnesota Department of Transportation, along with the MPCA and other Minnesota state agencies conducted a study called “Pathways to Decarbonizing Transportation in Minnesota,” which included modeling that showed if Minnesota continued on a business as usual path of transportation GHG emissions, the state would begin to see emissions increases in transportation, making it impossible to achieve our Next Generation Energy Act goals.³

8. The MPCA is also pursuing the Clean Cars Minnesota rulemaking to reduce emissions of criteria air pollutants. In Minnesota, on-road vehicles produce about 30% of overall emissions of NO_x, 17% of non-biogenic volatile organic compounds (“VOCs”), and about 13.5% of emissions of fine particles.⁴ In June 2019, the MPCA and the Minnesota Department of Health released the “Life and breath” report that showed fine particles and ground-level ozone contributed to roughly 2,000-4,000 deaths in Minnesota in 2013 (most recent data) as well as hundreds of

³ MnDOT, “Pathways to Decarbonizing Transportation,” <http://www.dot.state.mn.us/sustainability/pathways.html>.

⁴ MPCA statewide and county air emissions, <https://www.pca.state.mn.us/air/statewide-and-county-air-emissions>.

increased hospital visits.⁵ Reducing emissions of these pollutants is critical for protecting the health of Minnesotans.

9. Reducing air pollution from vehicles is especially necessary for addressing environmental justice. MPCA research shows that communities of color and under-resourced communities are disproportionately exposed to pollution from vehicles because those communities are disproportionately located near busy roadways.⁶ Reducing emissions from vehicles is necessary to reduce exposures to these vulnerable and already overburdened communities and to address environmental justice.

10. Since the Governor's announcement, the MPCA has initiated the rulemaking process, including publishing a Request for Comments, hosting seven community listening sessions, including a webinar, and five technical stakeholder meetings, holding over 40 meetings with interested stakeholders and community groups, and has reviewed over 1,000 written comments and over 1,000 survey results. The agency is also in the process of drafting rule language and a Statement of Need

⁵ "Life and breath: How air pollution affects health in Minnesota," David Bael and Kathy Raleigh, <https://www.pca.state.mn.us/air/life-and-breath-report>

⁶ Traffic, Air Pollution, Minority and Socio-Economic Status: Addressing Inequities in Exposure and Risk. Gregory C. Pratt, et al., <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4454972/>.

and Reasonableness, which includes an emissions analysis and a cost/benefit analysis of the proposed rule. Going forward, the MPCA will continue the administrative rulemaking process by publishing the Notice of Intent to Adopt a Rule with a Hearing, which will include the draft rule language and Statement of Need and Reasonableness. After publishing the Notice of Intent to Adopt, we will begin a new public comment period, will host public information sessions, and an Administrative Law Judge will hold hearings where members of the public can testify along with a subsequent rebuttal period. The Administrative Law Judge will then develop a report that will allow the MPCA to adopt the rule or tell the agency we cannot proceed without making changes to the rulemaking. The MPCA intends to adopt its Clean Cars Minnesota Rule as soon as practicable after completing the administrative process.

11. Minnesota's standards cannot take full legal effect, however, until California's waiver is restored.

I state under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my knowledge and belief.

Executed on June 15, 2020 in Hennepin County, Minnesota.



Frank L Kohlasch

ORAL ARGUMENT NOT YET SCHEDULED

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

UNION OF CONCERNED SCIENTISTS,
et al.,

Petitioners,

v.

NATIONAL HIGHWAY TRAFFIC
SAFETY ADMINISTRATION, *et al.*,

Respondents.

No. 19-1230 and
consolidated cases

DECLARATION OF CHRISTINE KIRBY

I, Christine Kirby, declare as follows:

1. I am currently employed by the Massachusetts Department of Environmental Protection (MassDEP) as the Assistant Commissioner in charge of the Bureau of Air and Waste and was, prior to my current position, the Director of Air and Climate Programs. I have held the former position for more than 3 years, and I held the latter for 6 years. I have been employed by MassDEP since 1985, having previously held the positions of Deputy Division Director of the Mobile Source Section for 8 years, and Branch Chief for Transportation Programs for 7 years.

2. My job duties include, but are not limited to, overseeing the promulgation and implementation of MassDEP regulations that establish emission standards and other emission-related requirements applicable to on-road mobile sources. I have managed the Massachusetts Low Emission Vehicle (LEV) program since 1997 in my various capacities as Branch Chief, Deputy Director, Director, and Assistant Commissioner. As part of my management responsibilities, I have been involved in numerous revisions to keep the LEV program up-to-date with the California standards in order to ensure that Massachusetts meets its air-quality obligations and greenhouse gas-reduction goals. I have also been the Massachusetts point of contact with the California Air Resources Board (CARB) on development and implementation of the California standards.

3. In my tenure as the Director of Air and Climate Programs, I was the chair of the Mobile Source Committee of the Ozone Transport Commission, which is a multi-state organization created under the Clean Air Act and is responsible for advising the United States Environmental Protection Agency (EPA) on transportation issues and for developing and implementing regional solutions to the ground-level ozone problem in the Northeast and Mid-Atlantic regions. I also served on the Board of Directors of the Northeast States for Coordinated Air Use Management (NESCAUM), an association of the air quality agencies in eight

Northeast states that provides scientific, technical, analytical, and policy support to the air quality programs of those agencies, especially regarding implementation of national environmental programs required under the Clean Air Act and other federal legislation. I currently serve on the Board of Directors of the National Association of Clean Air Agencies—a national association of state and local air quality agencies. I also currently serve as a co-chair of the Technical Analysis Workgroup of the Transportation Climate Initiative's effort to design a regional policy for a "cap and invest" program for the transportation sector.

4. I have a Bachelor of Arts degree from Clark University.

5. This declaration refers to final actions of Respondents EPA and the National Highway Traffic Safety Administration (NHTSA) set forth in the notice published at 84 Federal Register 51,310 (September 27, 2019) and titled “The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program” (Challenged Actions). Among other things, the Challenged Actions eliminate the authority of Massachusetts and other states to adopt and enforce California’s light-duty vehicle greenhouse gas emission standards and certain requirements for zero-emission vehicles, including battery-electric vehicles and fuel-cell vehicles. I am personally familiar with the Challenged Actions.

6. I am submitting this declaration in support of State and Local Government and Public-Interest Petitioners’ June 26, 2020 Joint Opening Brief in

Union of Concerned Scientists, et al. v. NHTSA, et al., United States Court of Appeals for the District of Columbia Circuit, No. 19-1230 (and consolidated cases).

Massachusetts is Legally Obligated to Reduce Economywide Greenhouse Gas Emissions

7. The Commonwealth of Massachusetts (Commonwealth) is committed to protecting public health and the environment through programs and policies that address air pollution and climate change.

8. Massachusetts state law imposes legally binding requirements on the Commonwealth to reduce emissions of climate-warming greenhouse gases from sources across the economy. *See Kain v. Mass. Dep't Envtl. Prot.*, 474 Mass. 278, 287–88 (2016). The Global Warming Solutions Act of 2008 (GWSA) mandates that the Commonwealth reduce statewide greenhouse gas emissions at least 80% below the 1990 emissions level by 2050 and meet interim emissions-reduction limits. MASS. GEN. LAWS ch. 21N, §§ 3(b) & 4(a). Specifically, the GWSA required the Commonwealth's Secretary of Energy and Environmental Affairs (Secretary) to adopt a 2020 statewide greenhouse gas emissions limit between 10% and 25% below the 1990 emissions level. *Id.* § 4(a).

9. In 2010, the Secretary established the emissions limit for 2020 to be 25% below the 1990 emissions level.¹

10. On April 22, 2020, the Secretary established an emissions limit for 2050 to be net zero greenhouse gas emissions (*i.e.*, emissions equal in quantity to the amount of carbon dioxide or its equivalent that is removed from the atmosphere and stored annually by, or attributable to, the Commonwealth), and at least 85% below the 1990 emissions level.²

11. The GWSA also directs the Secretary to develop implementation plans for obtaining sufficient emissions reductions to meet the 2020, 2030, 2040, and 2050 emissions limits, and to update the Commonwealth's implementation plans at least once every 5 years. MASS. GEN. LAWS ch. 21N, §§ 3(b), 4(h).

12. In 2010, the Secretary published the first GWSA implementation plan, entitled the "Massachusetts Clean Energy and Climate Plan for 2020," which included a menu of policies to reduce greenhouse gas emissions from all significant emitting sectors, including transportation. As required by the GWSA, the Secretary updated the "Massachusetts Clean Energy and Climate Plan for 2020" in 2015. The "2015 update to the Massachusetts Clean Energy and Climate

¹ See Ian A. Bowles, *Determination of Greenhouse Gas Emission Limit for 2020* (Dec. 28, 2010), <https://tinyurl.com/y8uaromz>.

² See Kathleen A. Theoharides, *Determination of Statewide Emissions Limit for 2050* (Apr. 22, 2020), <https://www.mass.gov/doc/final-signed-letter-of-determination-for-2050-emissions-limit>.

Plan for 2020” (MA Climate Plan) supersedes the 2010 plan and describes policies that Massachusetts relies on to achieve its legally binding 2020 emissions-reduction requirement. MASS. EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS, 2015 UPDATE: MASSACHUSETTS CLEAN ENERGY AND CLIMATE PLAN FOR 2020 (Dec. 31, 2015) [MA Climate Plan]. The policies set forth in the MA Climate Plan represent the Commonwealth’s comprehensive strategy to address greenhouse gas emissions from emissions sources across the economy. Although the MA Climate Plan focuses on achieving the Commonwealth’s near-term emissions-reduction requirement for 2020, the MA Climate Plan also looks ahead to the statutory 2050 emission-reduction requirement and describes policies and plans that will help achieve this long-term limit, as well as to-be-determined interim limits for 2030 and 2040.

13. The GWSA also requires the Secretary to convene an advisory committee to advise the Commonwealth on matters related to implementation of the GWSA, including strategies to achieve emissions-reduction targets. MASS. GEN. LAWS ch. 21N, § 8. The required advisory committee, known as the GWSA Implementation Advisory Committee, has been advising the Commonwealth on development of the forthcoming “Massachusetts Clean Energy and Climate Plan

for 2030.”³ The Implementation Advisory Committee is also providing input to a “Massachusetts Decarbonization Roadmap to 2050” planning process to identify cost-effective and equitable strategies to ensure Massachusetts reduces 2050 greenhouse gas emissions by at least 90% below the 1990 emissions level, to ensure compliance with the 2050 limit.⁴

14. By Executive Order 569, Massachusetts Governor Charles Baker directed the Secretary to consult with the GWSA Implementation Advisory Committee regarding emissions limits for 2030 and 2040, as well as strategies to reduce emissions from the transportation sector.⁵ This Executive Order further requires the Secretary to develop and publish every five years a comprehensive energy plan, which shall include strategies to meet the Commonwealth’s energy demands for the transportation sector.⁶

³ See, e.g., Mass. Executive Office of Energy & Environmental Affairs, Meeting Slidedeck for GWSA IAC Meeting (June 11, 2020), <https://www.mass.gov/event/june-11-2020-meeting-of-the-gwsa-implementation-advisory-committee-iac-2020-06-11t140000-0400>.

⁴ See Mass. Executive Office of Energy & Environmental Affairs, MA Decarbonization Roadmap (2020), <https://www.mass.gov/info-details/ma-decarbonization-roadmap>.

⁵ See Exec. Order No. 569, § 1.1 (Mass. 2016) <https://www.mass.gov/executive-orders/no-569-establishing-an-integrated-climate-change-strategy-for-the-commonwealth>.

⁶ *Id.*, §§ 1.3, 1.5.

15. By separate Executive Order, Governor Baker established the Commission on the Future of Transportation in the Commonwealth to advise the Governor on how to ensure that transportation planning, forecasting, operations, and investments for 2020 through 2040 can best account for likely demographic, technological, climate, and other changes in future mobility and transportation behaviors, needs, and options.⁷

16. MassDEP plays a critical role in implementing the GWSA and facilitating the Commonwealth's compliance with emissions-reduction requirements. For instance, MassDEP monitors state-level emissions trends, collects data on emissions from various sources, and records and reports annual statewide and sector-specific emissions through the Commonwealth's Greenhouse Gas Emissions Inventory. MassDEP is also responsible for implementing numerous policies and programs included in the MA Climate Plan. The Commonwealth's highest court, the Massachusetts Supreme Judicial Court, has recognized that MassDEP shoulders a crucial responsibility in statewide emissions-reductions efforts. Section 3(d) of the GWSA requires MassDEP to promulgate regulations that address multiple sources or categories of sources of greenhouse gas emissions, impose a limit on emissions that may be released from such sources,

⁷ See Exec. Order No. 579, § 1 (Mass. 2018), <https://www.mass.gov/executive-orders/no-579-establishing-the-commission-on-the-future-of-transportation-in-the>.

limit the aggregate emissions released from each group of regulated sources or categories of sources, set emission limits for each year, and set limits that decline on an annual basis. *See Kain*, 474 Mass. at 292. MassDEP has promulgated two regulations that impose declining limits on the transportation sector. *See* 310 MASS. CODE REGS. 60.05 (“GWSA Requirements for Transportation”); *id.* 60.06 (“CO₂ Emission Limits for State Fleet Passenger Vehicles”).

Reductions in Transportation-Sector Emissions Are Critical to Achieving Massachusetts’ Required Greenhouse Gas-Emissions Reductions

17. Significant reductions in transportation-sector greenhouse gas emissions are critical to achieving Massachusetts’ emission-reduction requirements for 2020 and beyond. The transportation sector is the single largest source of greenhouse gas emissions in the Commonwealth, accounting for 41.9% of Massachusetts’ statewide emissions in 2017.⁸ Motor vehicles, including light-duty cars and trucks, are a significant source of emissions in the transportation sector. If Massachusetts’ transportation-sector emissions were to remain, through 2050, at the 2017 level of 30.7 million metric tons of carbon dioxide equivalent (MMTCO₂e), or even at the lower end of the projected range of 2020 levels—29

⁸ *See* MASS. DEP’T ENVTL. PROT., STATEWIDE GREENHOUSE GAS (GHG) EMISSIONS BASELINE & PROJECTION UPDATE, APPENDIX C: MASSACHUSETTS ANNUAL GREENHOUSE GAS EMISSIONS INVENTORY: 1990–2017, WITH PARTIAL 2018 DATA (2019), <https://www.mass.gov/doc/appendix-c-massachusetts-annual-greenhouse-gas-emissions-inventory-1990-2017-with-partial-2018/download>.

MMTCO₂e—Massachusetts would not be able to meet its required 2050 emissions limit of, at maximum, 14.2 MMTCO₂e (which is equivalent to 85% below the 1990 emissions level). *See* MA Climate Plan, *supra*, at 13, tbl. 3 (projecting 2020 emissions). Even if emissions from all other sectors of the economy were eliminated, emissions from the transportation sector alone would exceed Massachusetts' economy-wide 2050 emissions limit if they did not decline after 2020.

Zero-Emission-Vehicle Standards and Greenhouse Gas Emission Standards for Motor Vehicles Are Key to Massachusetts' Compliance with Mandated Emissions Reductions and Provide Substantial Benefits to Massachusetts Residents

18. The Massachusetts Clean Air Act, MASS. GEN. LAWS ch. 111, §§ 142A–142O, specifically section 142K, requires MassDEP to adopt and implement California's emissions standards for new motor vehicles if such standards, in the aggregate, are at least as protective as federal motor-vehicle emissions standards. *See* MASS. GEN. LAWS ch. 111, § 142K. MassDEP initially adopted California's Low Emission Vehicle (LEV) program under regulations promulgated in 1991. *See* 310 MASS. CODE. REGS. 7.40.

19. MassDEP amended its LEV program regulations in 1999 and again in 2012 to adopt amendments to California's LEV program, including zero-emission-vehicle standards and greenhouse gas emission standards.

20. Under the zero-emission-vehicle standards, large- and intermediate-volume automobile manufacturers have been required to deliver and place in service within the Commonwealth a certain percentage of zero-emission vehicles, including battery-electric vehicles and fuel-cell vehicles. A vehicle manufacturer's zero-emission-vehicles requirement has been based on a percentage of all passenger vehicles and light-duty trucks up to a certain weight limit that it delivers for sale in the Commonwealth. The requirement has been set to increase through 2025 and remain constant for years beyond 2025. Manufacturers subject to the zero-emission-vehicle standards have earned varying credits depending on the numbers and types of vehicles they delivered and placed in service within Massachusetts. Regulated automobile manufacturers and other entities that earned credits have been permitted to trade or transfer credits to one another and to third parties. Through mechanisms such as credit banking and trading and alternative compliance options, the zero-emission-vehicle standards provide manufacturers flexibility to pool credits in order to allow manufacturers to develop their preferred compliance strategy to place zero-emission vehicles in states that have committed to develop or have established fueling infrastructure to adequately support those vehicles.

21. Under the greenhouse gas emission standards, automobile manufacturers must decrease greenhouse gas emissions on a fleetwide basis for 2017 and subsequent model year cars and light trucks.

22. Reducing greenhouse gas emissions from motor vehicles is an important objective of Massachusetts's LEV program. Zero-emission vehicles have zero tailpipe emissions of greenhouse gas emissions, and indirect emissions associated with zero-emission-vehicle fueling are far lower than emissions associated with fueling a conventional internal-combustion engine vehicle with gasoline. For instance, accounting for emissions associated with electricity generation, powering an electric vehicle in Massachusetts results in approximately 71 percent fewer carbon dioxide emissions than powering the average gasoline-fueled vehicle.⁹

23. Massachusetts has long relied on its zero-emission-vehicle and greenhouse gas emission requirements as key components of its strategy to accelerate vehicle electrification and satisfy GWSA mandates. The current LEV regulations are among the emissions-reduction policies included in the MA Climate Plan as part of the Commonwealth's strategy to meet both near-term and long-term emissions-reduction requirements. *See* MA Climate Plan, *supra*, at 26.

⁹ *See* U.S. Dep't of Energy, *Emissions from Hybrid and Plug-In Electric Vehicles*, ALTERNATIVE FUELS DATA CENTER, https://afdc.energy.gov/vehicles/electric_emissions.html.

As detailed in the MA Climate Plan, the greenhouse gas emission reductions associated with the LEV program are critical to meeting near-term and long-term emissions-reduction requirements and complying with the GWSA. *See* MA Climate Plan, *supra*, at 26–27. The MA Climate Plan estimates that the LEV program will reduce greenhouse gas emissions by 3.7 MMTCO₂e in 2020, accounting for greater emission reductions than any other transportation-sector policy in Massachusetts. *Id.* at 26. According to the MA Climate Plan, “[b]ecause of these standards, per-mile [greenhouse gas] emissions from 2025 model year vehicles are forecast to be 34% lower, on average, compared to 2016 model year vehicles.” *Id.* The MA Climate Plan expects continued reductions in transportation-sector emissions after 2020 from the regulations. *See id.* at 28, fig. 8.

24. The MA Climate Plan also emphasizes that “[m]eeting the 2050 emission limit requires powering the transportation sector largely with electricity.” *Id.* at 16. Because only a portion of Massachusetts’ vehicle fleet turns over each year, “[t]his transition [to transportation electrification] requires . . . sustained policy over the 15–30 years it takes for the vehicle fleet to turnover.” *Id.* The key program for the Commonwealth to achieve this policy objective—and thereby comply with the GWSA—is the zero-emission-vehicle standards.

25. In practice, the zero-emission-vehicle standards have proven successful at increasing sales of zero-emission vehicles in Massachusetts. As a result of market and technology changes spurred by the zero-emission-vehicle standards, annual registrations of zero-emission vehicles in Massachusetts grew from 114 in 2011 to 8990 in 2018.¹⁰ The total population of electric vehicles in Massachusetts increased more than 1,300 percent between December 31, 2013 and December 31, 2019, from 3,333 to 25,838 electric vehicles.¹¹ The MA Climate Plan anticipated that vehicle electrification would continue to accelerate through 2020 and beyond as a result of the zero-emission-vehicle standards and complementary state policies to support and encourage adoption of zero-emission vehicles. Specifically, the MA Climate Plan anticipated 300,000 zero-emission vehicles in use in Massachusetts in 2025, leading to statewide reductions in greenhouse gas emissions from clean or electric vehicles of 0.1 MMTCO₂e in 2020 and generating continued and increasing emissions reductions thereafter. MA Climate Plan, *supra*, at 27.

¹⁰ See Auto Alliance, *Advanced Technology Vehicle Sales Dashboard*, <https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/>.

¹¹ See *Massachusetts Electric (EV) and Plug-In Hybrid Electric (PHEV) Vehicles*, <https://www.mass.gov/doc/chart-showing-electric-vehicle-growth-in-massachusetts/download>.

26. Massachusetts also relied on its zero-emission-vehicle standards to further other important policy goals that benefit the Commonwealth and its residents. Because zero-emission vehicles have a lower total cost of ownership than gasoline-powered vehicles—including lower and less variable fuel costs and fewer vehicle maintenance requirements—those who drive zero-emission vehicles save on overall costs, and those savings spur corresponding local economic benefits. Increased uptake and use of zero-emission vehicles also has broad societal benefits shared by zero-emission-vehicle users and non-users alike. Gasoline-powered vehicles are a major source of local and regional air pollution, emitting carbon monoxide, nitrogen oxides, volatile organic compounds, and fine particulate matter that harm human health and the environment and contribute to dangerous ground-level smog. Zero-emission vehicles, by contrast, have zero tailpipe emissions of conventional pollutants and thus promote pollution reduction, clean air, and public health improvements. Zero-emission vehicles also have the potential to benefit Massachusetts' electric power system—and thus, all electricity consumers—by providing valuable power system services such as dispatching stored energy to the electricity grid during times of high demand.

Massachusetts Has Invested Considerable Public Resources in Complementary Policies Designed to Work in Coordination with the Zero-Emission-Vehicle Standards

27. Massachusetts has implemented a variety of complementary policies designed to work in coordination with the zero-emission-vehicle standards and ensure their long-term success in reducing greenhouse gas emissions and delivering health, economic, and other benefits to Massachusetts residents.

28. For instance, the Governor of Massachusetts joined the Governors of California and nine other states that have adopted California's zero-emission-vehicle standards in forming a "Multi-State ZEV Task Force" to coordinate state actions to build a robust market for zero-emission vehicles.¹² In 2014, the task force states developed a "Multi-State ZEV Action Plan," which sets forth key zero-emission-vehicle adoption efforts such as the development of publicly available electric vehicle charging infrastructure and installation of fast-charging infrastructure along major travel corridors. *Id.*

29. In 2018, Massachusetts joined eight other states in releasing an updated Multi-State ZEV Action Plan for 2018–2021.¹³ Building on the success of the 2014 plan, the 2018–2021 action plan details 81 efforts to rapidly accelerate consumer adoption of zero-emission vehicles in Massachusetts and partner states.

¹² See *About the ZEV Task Force*, MULTI-STATE ZEV TASK FORCE, <https://www.zevstates.us/about-us/>.

¹³ Available at: <http://www.nescaum.org/documents/2018-zev-action-plan.pdf>.

30. Many of the initiatives identified in the action plans have been successfully implemented or are underway, including collaborations with vehicle dealerships, consumer outreach and education campaigns in partnership with the automobile industry, and public utility commission proceedings to further transportation electrification programs. And Massachusetts has initiated a variety of programs, with funding from state and other sources, to provide vehicle charging infrastructure, incentives, and education to support the zero-emission-vehicle standards. For example, the Massachusetts Department of Energy Resources funds rebates of up to \$2,500 to residents who purchase or lease zero-emission vehicles. To date, Massachusetts has committed approximately \$32.7 million to its rebate program.¹⁴ Massachusetts also has invested substantial public funds in the development of charging infrastructure to support the zero-emission-vehicle standards' increasing requirements through 2025. Since 2018, MassDEP has committed \$5.5 million in settlement funds and other funds to various Massachusetts Electric Vehicle Incentive Program (MassEVIP) efforts, including efforts to expand: workplace charging (\$1.5 million), multi-unit dwelling charging

¹⁴ See Center for Sustainable Energy, *MOR-EV Program Statistics*, MASSACHUSETTS DEPARTMENT OF ENERGY RESOURCES MASSACHUSETTS OFFERS REBATES FOR ELECTRIC VEHICLES (June 5, 2020), <https://mor-ev.org/program-statistics>.

(\$1.5 million), public access charging (\$2 million), and fleet electrification and charging (\$0.5 million).

31. As the foregoing examples demonstrate, Massachusetts has invested significant public resources in developing and implementing a set of policies designed to complement, and facilitate compliance with, the zero-emission-vehicle standards. Massachusetts has done so based on the assumption the zero-emission-vehicle standards would remain in effect and require a minimum percentage of zero-emission vehicles to be delivered and placed in service within the Commonwealth through 2025 and beyond.

32. In making these investments, Massachusetts also anticipated that the zero-emission-vehicle standards would amplify the benefits of the Commonwealth's complementary policies, and vice versa. Specifically, the complementary policies were designed to work in coordination with zero-emission-vehicle standards to overcome inherent "network" barriers to developing a robust market for zero-emission vehicles in Massachusetts. For instance, where too few electric vehicles are in use, businesses are reluctant to invest in vehicle charging infrastructure, the paucity of which, in turn, reduces the value of electric vehicles to consumers and further depresses demand for electric vehicles. The reverse is also true: a consumer's purchase of an electric vehicle increases demand for vehicle charging infrastructure, and increased supply of charging infrastructure

further encourages consumers to purchase electric vehicles. Increased uptake of zero-emission vehicles resulting from the zero-emission-vehicle standards would thus promote the market conditions necessary for the Commonwealth's complementary policies and investments to be most effective. In short, the zero-emission-vehicle standards are essential to realize the full extent of benefits Massachusetts anticipated from its suite of complementary zero-emission-vehicle policies, including development of a robust market for zero-emission vehicles in Massachusetts.

The Challenged Actions Directly and Concretely Harm Massachusetts

33. By eliminating the authority of Massachusetts to maintain its zero-emission-vehicle standards, the Challenged Actions will result in significantly fewer sales of zero-emission vehicles and lower market penetration of zero-emission vehicles in Massachusetts. Massachusetts' zero-emission-vehicle standards have resulted in more zero-emission vehicles in the state as compared to other states that have not adopted zero-emission-vehicle standards. Massachusetts' zero-emission-vehicle standards have also sent a market signal to other zero-emission-vehicle-related businesses (e.g., electric vehicle supply equipment vendors) to increase deployment of zero-emission vehicles and focus on Massachusetts.

34. In addition, because the Challenged Actions eliminated the authority of Massachusetts to adopt and enforce California's greenhouse gas emission standards, Massachusetts can no longer be assured that its LEV program will continue to achieve anticipated reductions in greenhouse gas emissions from motor vehicles. Federal greenhouse gas emissions standards do not require 2021 to 2026 model year vehicles to obtain reductions in emissions equivalent to the reductions required under Massachusetts' regulations.

35. As a result, greenhouse gas emissions from Massachusetts' transportation sector will be higher. Given that the transportation sector is the single largest source of greenhouse gas emissions in the Commonwealth, the Challenged Actions will result in higher transportation-sector emissions and will significantly undermine Massachusetts' ability to obtain the greenhouse gas emissions reductions mandated by the GWSA.

36. Eliminating Massachusetts' zero-emission-vehicle standards also will reduce the benefits anticipated from the Commonwealth's complementary zero-emission-vehicle policies, which had been designed to work in concert with the zero-emission-vehicle standards and capitalize on network effects. Because significantly fewer zero-emission vehicles will be delivered and placed in service within the Commonwealth as a result of the Challenged Actions, Massachusetts will no longer be able to expect its policies to lead to development of a robust

market for zero-emission vehicles in Massachusetts—further jeopardizing Massachusetts’ ability to comply with long-term greenhouse gas emissions-reduction mandates.

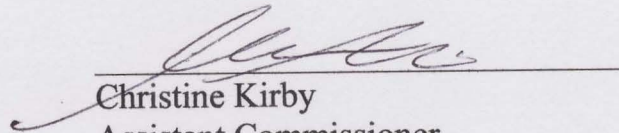
37. In addition, eliminating Massachusetts’ zero-emission-vehicle standards and greenhouse gas emissions requirements for motor vehicles also eliminates other benefits associated with uptake and use of zero-emission vehicles that otherwise would have accrued to Massachusetts residents, including direct consumer cost savings, local economic benefits, public health and environmental improvements, and power system benefits. Those foregone benefits represent substantial losses for Massachusetts residents.

38. Eliminating the zero-emission-vehicle standards also will negatively impact the Commonwealth’s business sector. MassDEP can no longer expect that, given the cutting-edge nature of the vehicle technologies and technology programs at Massachusetts’ colleges and universities, the zero-emission-vehicle standards will facilitate the creation of start-up ventures related to the increased requirement for advanced technology vehicles, or that companies that produce parts for or service zero-emission vehicles will be incentivized to move to or expand within the Commonwealth.

39. In conclusion, the Challenged Actions have directly and concretely harmed Massachusetts.

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Amherst, Massachusetts on June 24, 2020.



Christine Kirby
Assistant Commissioner
Bureau of Air and Waste
Massachusetts Department of
Environmental Protection

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

UNION OF CONCERNED
SCIENTISTS, *et al.*,

Petitioners,

v.

NATIONAL HIGHWAY TRAFFIC
SAFETY ADMINISTRATION, *et al.*,

Respondents.

No. 19-1230
(and consolidated cases)

DECLARATION OF STEVEN E. FLINT

Pursuant to 28 U.S.C § 1746, I, Steven E. Flint, P.E., declare as follows:

1. I am the Director of the Division of Air Resources (DAR) at the New York State Department of Environmental Conservation (NYSDEC), where I have worked since 1980. I provide this declaration in support of the State Petitioners' brief filed in this lawsuit challenging the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, Part One: One National Program," which was jointly adopted by the U.S. Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA), 84 Fed. Reg. 51,310 (September 27, 2019) (the "Final Actions"). The State of New York filed this case because of our

strong interest in the state-level environmental protections allowed under Sections 209 and 177 of the Clean Air Act (42 U.S.C. §§ 7543, 7507).

2. As an administrator of New York's program for adopting California's vehicle emissions standards under Section 177, it is clear to me that New York will suffer harm due to EPA's and NHTSA's actions to remove states' ability to adopt California's regulations under Section 177. These actions, together with EPA and NHTSA's action to significantly weaken current federal emissions standards, *see* 85 Fed. Reg. 24,174 (Apr. 30, 2020)¹ will result in New York suffering the effects of increased greenhouse gas (GHG) emissions both in and outside its borders. These increased emissions will prevent New York from reaching its statutorily mandated emissions goals. Failure to reduce GHG emissions both inside and outside New York will continue the effects of climate change, which, as a result of increased temperatures, will damage New Yorkers' public health as well as the state's environment and economy.

¹ A second action, "The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks," 85 Fed. Reg. 24,174 (Apr. 30, 2020), attempts to roll back federal motor vehicle greenhouse gas emission standards and fuel economy standards, was published by EPA and NHTSA is the subject of a separate lawsuit U.S. Court of Appeals for the District of Columbia Circuit Case No. 20-1167

PERSONAL BACKGROUND AND QUALIFICATIONS

3. I have Bachelor of Science and Master of Science in Civil and Environmental Engineering degrees from Clarkson College. I am a licensed Professional Engineer in New York.

4. I have been the Director of the Division of Air Resources for approximately 4 years. In addition to my current position, I have held the positions of Assistant Director of Air Resources; Director, Bureau of Mobile Sources and Technology Development; Chief of Light and Heavy Duty Vehicle Section of the Bureau of Mobile Sources and Technology Development; and other engineering positions within DEC.

5. My responsibilities include overseeing DAR's central office in Albany, which carries out the development and implementation of mobile source regulations and technology development, monitoring and research functions, and stationary source permitting. In addition, I work with DEC's nine regional offices, which are responsible for air permitting and enforcement throughout the state.

6. Another of my responsibilities is overseeing DEC's air quality planning efforts, including regulation and mitigation of greenhouse gas (GHG) emissions.

7. I also oversee the development of Clean Air Act-mandated State Implementation Plans (SIP). SIPs detail how DEC will assure that, among other

things, the air quality in New York will come into or maintain compliance with the National Ambient Air Quality Standards (NAAQS) for the “criteria pollutants,” including ozone, particulate matter (PM_{2.5}) and sulfur dioxide (SO₂), set by EPA under Sections 108 and 109 of the Clean Air Act. States are primarily responsible for ensuring attainment and maintenance of a NAAQS once EPA has established one.

8. As part of my job responsibilities, I have worked on efforts within New York to adopt motor vehicle emission control programs that reduce emissions of nitrogen oxides (NO_x) and volatile organic compounds (VOCs), which are pollutants that lead to the formation of ozone and are commonly referred to as “ozone precursors,” as well as GHG emissions. These control programs include 6 New York Code of Rules & Regulations (NYCRR) Part 217, Motor Vehicle Emissions and 6 NYCRR Part 218 (Part 218), Emission Standards for Motor Vehicles and Motor Vehicle Engines.

POINT I

THE ABILITY TO ADOPT CALIFORNIA’S MORE STRINGENT GHG EMISSIONS STANDARDS IS CRITICAL TO NEW YORK

A. New York’s Historic Use of Section 177 Has Reduced the State’s GHG Emissions.

9. Section 177 of the Clean Air Act allows a State to adopt California’s motor vehicle emission standards so long as the State’s standards are identical to

California's and the State adopts the standards at least two years prior to the applicable vehicle model year. In 1990, New York was the first state in the nation to adopt California's standards, in the form of 6 NYCRR Part 218, which took effect beginning with the 1993 vehicle model year. With the exception of model year 1995, New York has continued to implement California's updates to its new motor vehicle program because this program provides substantial reductions in both criteria and GHG pollutants. And in 2005, New York adopted California's first (in that state and the nation) GHG emissions standards for cars and trucks. Since then, New York has continued to adopt California's more stringent GHG emissions standards, including the most recent ones for model years 2017-2025.

10. In 2012, with the support of the auto industry, EPA promulgated greenhouse gas emissions standards for MY2017-2025, again jointly with NHTSA. 77 Fed. Reg. 62,623 (Oct. 15, 2012). The standards, expressed as reductions of CO₂ in grams/mile (g/mi) are achieved through a combination of measures, including increases in engine and vehicle efficiency, changes to air conditioning, and off-cycle credits. EPA's standards require a combined (passenger car and light-duty truck) fleet-wide average of 243 g/mi CO₂ in 2017, decreasing to a combined fleetwide average of 163 g/mi CO₂ in 2025. The agencies estimated that these reductions would correspond to a combined fleetwide fuel economy average

of 35 mpg in 2017 increasing to about 49 mpg in 2025. 77 Fed. Reg. at 62,640.² EPA found that the standards would “reduce GHG emissions by the equivalent of over two billion metric tons,” and would have net benefits of \$326 to \$451 billion, over the vehicles’ lifetimes. 77 Fed. Reg. at 62,631. The standards’ stringency increases annually for each vehicle model year going out to MY2025. 77 Fed. Reg. at 62,771. In an historic agreement, California agreed that automakers who complied with the federal standards would be “deemed to comply” with California’s similarly strict, although not identical, standards. New York and other states (the Section 177 states) continued to opt in to California’s standards rather than exclusively rely on the slightly less stringent federal standards.

11. The Final Actions purport to revoke California’s ability to adopt and enforce its own GHG standards—and thus other states’ ability to adopt those standards. This would deprive California, New York, and the other Section 177 states of the ability to enforce more stringent standards than those imposed by EPA and NHTSA, including the 2021-2025 standards. Furthermore, the Final Actions include EPA’s novel determination that Section 177 precludes New York and other states from adopting and enforcing California’s GHG standards even in the event that California’s authority to adopt and enforce those standards is restored.

² EPA noted that real world CO₂ emissions are generally 25% higher than compliance values, and real world fuel efficiency values generally 20% lower than compliance values. 77 F.R. 62,624, 62630 fn. 11.

12. Without the ability to enforce the California standards that New York previously adopted for model years 2021-2025, or the ability to adopt California's GHG emission standards for model years after 2025, New York will not be able to continue the GHG emissions reductions detailed above—and neither will the other Section 177 states. The public health, environmental and economic harms from GHG emissions set forth below in Point 2 would only worsen. This scenario of worsening harms would only be exacerbated by the combined effect of EPA/NHTSA's attempt to preempt California's GHG standards, and EPA's interpretation of Section 177 with the agencies' rollback of the current model year 2021-2025 GHG emissions. Indeed, as the agencies themselves acknowledge, one effect of imposing only these laxer standards nationwide is 444-1000 more premature deaths from increased air pollution. *See* 85 Fed. Reg. 24174, 25119 (Apr. 30, 2020).

B. New York Needs its Full Section 177 Authority to Meet Statutorily Mandated GHG Emissions Reduction Goals

13. New York's efforts to reduce GHG emissions have recently been mandated by statute. The Climate Leadership and Community Protection Act (CLCPA), which went into effect on January 1, 2020, requires New York to reduce

GHG emissions 85% below 1990 levels by 2050 and offset the remaining 15%.

Environmental Conservation Law (ECL) § 75-0107.

14. The statewide GHG emission reduction requirements established by statute in the CLCPA are applicable to all sources of GHG emissions, including emissions from light-duty vehicles subject to the Final Actions. Under the CLCPA, DEC is also to promulgate regulations to ensure compliance with the Statewide GHG emission limits. ECL § 75-0109. Importantly, as defined by the CLCPA, the definition of “statewide GHG emissions” includes emissions of GHGs from all sources within the State, as well as GHGs produced outside of the State associated with the extraction and transmission of fossil fuels imported into the State. ECL § 75-0101(13).

15. New York’s ability to use Section 177 to adopt California’s motor vehicle emission standards is critical to New York’s efforts to meet the emissions reductions demanded by the CLCPA. Transportation is the largest sector of GHG emissions in New York, and this sector is growing as a result of increasing vehicle use; it is infeasible for New York to seek to reduce vehicle use in the short term while maintaining economic growth. New York cannot reasonably expect to meet its goals without reductions in GHG emissions from the transportation sector.

16. For instance, California has mandated that a certain percentage of vehicles each manufacturer sells must be “zero-emission vehicles” (ZEVs). Cal.

Code Regs. Title 13 § 1960-1960.2. New York has adopted these percentages. 6 N.Y.C.R.R. § 218-4.1 (requiring manufacturers' sales fleets to "contain at least the same percentage of ZEVs subject to the same requirements set forth in California Code of Regulations"). In the absence of the ZEV program as well as the more stringent GHG emissions standards mandated fleetwide, New York would no longer be able to rely on this source of emissions reductions. Thus, if the Final Actions are left to stand, New York cannot expect to meet its climate goals, including the statutory requirements of CLCPA.

POINT II

NEW YORK AND ITS CITIZENS WILL SUFFER SHORT- AND LONG-TERM HARM FROM THE FINAL ACTIONS

17. The Final Actions, by increasing GHG emissions, will have short- and long-term adverse effects on (1) the health and safety of New Yorkers (2) New York's environment and proprietary interests and (3) the economic interests of New York State and New Yorkers. Increased GHG emissions will have long-term effects on the physical conditions of New York State. These changes—including alterations to New York State's weather, rise in the sea levels, and damage to the Great Lakes—will have negative effects on New York State in its proprietary interest, including on its budget and State land.

A. Climate Change is Already Harming New Yorkers' Health

18. Demand for health services and the need for public health surveillance and monitoring will increase as the climate continues to change. Heat-related illness and death are projected to increase. Increased coastal and riverine flooding resulting from intense precipitation increases the risk that such flooding could release contaminants or even toxic substances from wastewater treatment facilities, industrial facilities, and superfund sites with multiple attendant adverse health effects. Such flooding could lead to increased stress and mental health impacts, impaired ability to deliver public health and medical services, increased respiratory diseases such as asthma, and increased outbreaks of gastrointestinal diseases. Vector-borne diseases, such as those spread by mosquitoes and ticks (e.g., West Nile virus and Lyme disease), may expand or their distribution patterns may change, either of which may adversely affect additional populations. Water- and food-borne diseases are likely to increase without mitigation and adaptation intervention.³

19. The New York City metropolitan area has a significant ozone problem. Climate change is likely to worsen the harms New York is already

³ Rosenzweig, C., W. Solecki, A. DeGaetano, M. O'Grady, S. Hassol, P. Grabhorn (Eds.) 2011 at 421, 403. 'Responding to Climate Change in New York State: The ClimAID Integrated Assessment for Effective Climate Change Adaptation'. New York State Energy Research and Development Authority <http://www.nyserda.ny.gov/climaid>.

suffering from ozone. As NHTSA recognized during the rulemaking for the 2017-2025 corporate average fuel economy standards, “increased temperatures from climate change are projected to increase ground-level ozone concentrations, triggering asthma attacks among children.”⁴

20. Breathing ozone can trigger a variety of health problems. These problems include chest pain, coughing, throat irritation, airway inflammation, reduced lung function and damaged lung tissue. Ozone can worsen bronchitis, emphysema and asthma, leading to increased medical costs. Exposure to ozone has also been linked to early deaths. People most at risk from breathing air containing ozone include people with asthma, children, older adults and people who are active outdoors, especially outdoor workers.

21. Ozone also interferes with the ability of plants and forests to produce and store nutrients, which makes them more susceptible to disease, insects, harsh weather and other pollutants. This harms crop production in New York and throughout the United States, resulting in significant losses and injury to native vegetation and ecosystems. Furthermore, ozone damages the leaves of trees and other plants, and can also damage certain man-made materials, such as textile fibers, dyes, rubber products and paints.

⁴ 77 Fed. Reg. at 63,148.

B. Climate Change is Already Harming New York's Environment

22. Anthropogenic emissions of the predominant GHG, CO₂, are contributing to the observed warming of the planet.⁵ The Earth's lower atmosphere, oceans, and land surfaces are warming; sea level is rising; and snow cover, mountain glaciers, and Greenland and Antarctic ice sheets are shrinking. The Earth's climate is changing, with adverse consequences already well documented across the globe, in our nation and in the State. Extreme heat events are increasing, and intense storms are occurring with greater frequency. Many of the observed climate changes are beyond what can be explained by natural variability of the climate.⁶ These changes are and will continue to harm New York State's environment, including shorelines, drinking water sources, agriculture, forests, and wildlife diversity.

1. Climate Change Has and Continues to Alter New York's Weather

23. Similarly, New York's climate has also begun to change. Temperatures in New York State have risen on average 0.25°F per decade over the past century, with the greatest warming coming in recent decades. This warming

⁵ Intergovernmental Panel on Climate Change Working Group I Fifth Assessment Report, Climate Change 2013: The Physical Science Basis, 2013, and available at: <https://www.ipcc.ch/report/ar5/wg1/>

⁶ Ibid.

includes an increase in the number of extreme hot days (days at or above 90°F) and a decrease in the number of cold days (days at or below 32°F). The 2011 New York State ClimAID assessment⁷ and the 2014 update to ClimAID⁸ present the numerous direct impacts that have already been observed in New York State. These impacts are described in more detail below.

24. New York State is likely to see widespread shifts in species composition in the State's forests and other natural landscapes within the next several decades due to climate change. Losses of spruce-fir forests, alpine tundra and boreal plant communities are expected. Climate change favors the expansion of some invasive species into New York, such as the aggressive weed, kudzu, and the insect pest, hemlock woolly adelgid. Increased CO₂ in the atmosphere due to climate change is likely to preferentially increase the growth rate of fast growing species, which are often weeds and other invasive species. Lakes, streams, inland wetlands and associated aquatic species will be highly vulnerable to changes in the timing, supply, and intensity of rainfall and snowmelt, groundwater recharge and

⁷ Rosenzweig, C., W. Solecki, A. DeGaetano, M. O'Grady, S. Hassol, P. Grabhorn (Eds.) 2011. 'Responding to Climate Change in New York State: The ClimAID Integrated Assessment for Effective Climate Change Adaptation'. New York State Energy Research and Development Authority <http://www.nyserderda.ny.gov/climaid>

⁸ Horton, R., D. Bader, C. Rosenzweig, A. DeGaetano, and W. Solecki. 2014. Climate Change in New York State: Updating the 2011 ClimAID Climate Risk Information. New York State Energy Research and Development Authority (NYSERDA), Albany, New York.

duration of ice cover. Increasing water temperatures will negatively affect brook trout and other native cold-water fish.

25. New York State's forests and the economy that depends on them will be hurt by climate change. Climate change will affect the forest mix in New York, which could change from the current mixed forest to a temperate deciduous forest. The habitat for existing tree species will decrease as suitable climate conditions shift northward. As forest species change, the resulting decrease in the vibrant display of New York State fall foliage could have a negative impact on regional tourism. New York State's Adirondack Park is the largest forested area east of the Mississippi and consists of six million acres including 2.6 million acres of state-owned forest preserve.⁹ The Adirondack Park, one the most significant hardwood ecosystems in the world, is likely to be threatened by these changes. These changes will also further impact plant and wildlife species in the Adirondack Park and throughout the state, as the forest composition changes.

2. Sea-Level Rise and Increased Flooding Are Already Harming New York State

26. Warming ocean waters contribute to sea level rise, with adverse impacts for New York State. Warmer ocean water, which results in thermal

⁹ New York State Adirondack Park Agency (APA), http://www.apa.ny.gov/About_Park/index.html

expansion of ocean waters, melting of land ice, and local changes in the height of land relative to the height of the continental land mass, are the major contributors of sea level rise. Warming ocean water has the potential to strengthen the most powerful storms and combined with sea level rise will lead to more frequent and extensive coastal flooding. Sea level in the coastal waters of New York State and up the Hudson River has been steadily rising over the 20th century. Tide-gauge observations in New York indicate that rates of relative sea level rise were significantly greater than the global mean, ranging from 0.9 to 1.5 inches per decade.¹⁰

27. Sea-level rise increases the extent and magnitude of coastal flooding. For example, the twelve inches of sea level rise the New York City area has experienced in the past century exacerbated the flooding caused by Hurricane Sandy by about twenty-five square miles, damaging the homes of an additional 80,000 people in the New York City area alone.¹¹ That flooding devastated areas of New York, including the Brooklyn-Queens Waterfront, the East and South Shores of Staten Island, South Queens, Southern Manhattan, and Southern Brooklyn, which in some areas lost power and other critical services for extended

¹⁰ Rosenzweig et al. 19; 127; 135;.

¹¹ New York City Panel on Climate Change 2015 Report, Chapter 2: Sea Level Rise and Coastal Storms. Ann. N.Y. Acad. Sci. ISSN 0077-8923, available at: <http://onlinelibrary.wiley.com/doi/10.1111/nyas.12593/full>

periods. Overall, Hurricane Sandy caused 53 deaths and the estimated costs of damage and loss in New York State exceeded \$30 billion.¹²

28. New York State's tidal shoreline, including barrier islands, coastal wetlands, and bays, is expected to be particularly adversely affected by increased sea levels. New York State has 1,850 miles of tidal coastline,¹³ and the State owns dozens of state parks within New York State's coastal boundary. Tidal shoreline property in the State held by private landowners is similarly at risk.

29. Climate change will also increase the frequency and magnitude of flood damage and storms. Rising air temperatures associated with climate change intensify the water cycle by driving increased evaporation and precipitation. The resulting altered patterns of precipitation include more rain falling in heavy events, often with longer dry periods in between. Heavy downpours have increased in New York State over the past 50 years. By the end of the 21st century, coastal flood levels currently associated with a 100-year flood could occur approximately

¹² FEMA expenditures in New York State totaled \$16.9 billion (<https://www.fema.gov/news-release/2015/10/21/fema-aid-reaches-169-billion-new-yorks-hurricane-sandy-recovery>). US HUD expenditures totaled \$7 billion (HUD Archives News Release, HUD # 13-153, 10/28/13. <https://archives.hud.gov/news/2013/pr13-153.cfm>). Total insurance payments in New York State totaled \$8.3 billion, including National Flood Insurance payments, and private auto, homeowner, and commercial property insurance. (Hurricane Sandy: Rebuilding Task Force: Hurricane Sandy Rebuilding Strategy, August 2013, page 29. <https://www.hud.gov/sites/documents/hsrebuildingstrategy.pdf>)

¹³ U.S. Bureau of the Census, *Statistical Abstract of the United States 1987* at 187 (107th Ed.).

four times as often under conservative sea level rise scenarios. This trend will increase localized flash flooding in urban areas and hilly regions.¹⁴

30. New York State incurs significant costs from damage from flooding. Grants to the State from the FEMA Public Assistance Program made in the aftermath of flood disasters almost always require the State to fund a portion of the project. For example, in the aftermath of Hurricane Sandy, FEMA made 4,127 Public Assistance grants totaling nearly \$10 billion to State and local governments for facilities damaged by the storm, including parks, beaches, marinas, water treatment plants, hospitals, schools, public housing and other public buildings. While FEMA grants to New York covered 90% of the eligible costs of such projects, the State was left responsible for covering the remaining 10 percent.¹⁵

31. Flooding due to climate change exacerbates harm to public health and the environment in New York State. Flooding increases water pollution by carrying runoff from land areas containing road oils, salts, farm and lawn chemicals, pesticides, metals, and other pollutants into New York's water bodies. Flooding has also inundated and/or overloaded New York wastewater treatment plants, causing raw sewage to enter waterways. Polluted floodwaters can inundate

¹⁴ Rosenzweig et al. 35; 103.

¹⁵ <https://www.fema.gov/news-release/2015/10/21/fema-aid-reaches-169-billion-new-yorks-hurricane-sandy-recovery>

communities and other vulnerable development within floodplains, impairing potable public and private water supplies, and rendering cleanup more hazardous. Contaminated floodwaters can also impede other water uses including swimming, beach-going, and fishing. The U.S. Secretary of Health and Human Services issued Public Health Emergency Declarations in New York¹⁶ following Hurricane Sandy and Tropical Storm Lee, in large part because of post-flood conditions.

32. Climate change requires an increased commitment of State emergency response resources to protect lives and property in flood prone areas. For example, swift-water or air-rescue teams rescued over one thousand state residents during the flooding caused by Hurricane Irene and Tropical Storm Lee. New York State committed extensive emergency resources in response to the storms, including: deploying 1,700 State Police and 3,200 National Guard members, opening 200 shelters to house 18,000 citizens, and staffing 74 Disaster Recovery Centers to assist citizens during the recovery period.¹⁷ The storms closed 400 road segments and bridges and required repairs at 945 locations on the State highway system.

¹⁶ <https://www.phe.gov/emergency/news/healthactions/phe/Pages/default.aspx>

¹⁷ New York State Responds – Hurricane Irene and Tropical Storm Lee: One Year Later. August 2012. Available at: <https://www.governor.ny.gov/sites/governor.ny.gov/files/archive/assets/documents/Irene-Lee-One-Year-Report.pdf>

33. As NHTSA earlier recognized, “The Northeast includes densely populated coastal areas that are extremely vulnerable to projected increases in the extent and frequency of storm surge, coastal flooding, erosion, property damage, and loss of wetlands.”¹⁸ Indeed, “[e]xtensive erosion has already been documented across the mid-Atlantic region, New England, and New York.”¹⁹ Over 15.5 million people live within coastal counties in New York, the second highest population within the United States (only California has a larger coastal population).²⁰ According to NOAA’s Office of Coastal Management, New York has the most insured coastal properties in the country that are vulnerable to hurricanes (\$2.92 trillion in value).²¹

34. New York State and entities it funds maintain or own critical transportation infrastructure in lower Manhattan, including the Hugh L. Carey

¹⁸ CAFE 2017-2025 EIS § 5.5.2.1.3.

¹⁹ *Id.*

²⁰ Nat’l Oceanic and Atmospheric Admin., *National Coastal Population Report: Population Trends from 1970 to 2010* (Mar. 2013) available at: <https://aamboceanservice.blob.core.windows.net/oceanservice-prod/facts/coastal-population-report.pdf>.

²¹ <https://coast.noaa.gov/states/fast-facts/hurricane-costs.html>

Tunnel (formerly the Brooklyn-Battery Tunnel),²² the South Ferry Terminal,²³ and the West Side Highway.²⁴

35. New York's Metropolitan Transit Authority (the "MTA") has, especially in the wake of Hurricane Sandy, taken extensive measures to prepare its infrastructure for climate change impacts such as increases in sea-level rise, coastal storm surges, extreme winds, average air temperature and heat waves, and heavy precipitation.²⁵ In 2016, the MTA identified 46 resiliency projects across its transit system, requiring a total expenditure of just over \$750 million, which included federal funding.²⁶ These projects included:

- a. Resiliency measures (e.g., hardening of pump systems, watertight doors, and portal-sealing) designed to improve underground and underwater subway tunnels from flooding from future Category 2 storms, with an additional three-foot safety factor;
- b. Redesign of bus depots with interior and exterior flood protections;

²² See Metropolitan Transit Authority, *2017 Adopted Budget: February Financial Plan, 2017-2020*, available at <http://web.mta.info/mta/budget/pdf/MTA%202017%20Adopted%20Budget%20February%20Financial%20Plan%202017-2020.pdf>

²³ *Id.* at 106.

²⁴ New York State Department of Transportation, Real Estate Division, Notice of Appropriation, "Route 9A Reconstruction Project," available at http://a836-acris.nyc.gov/DS/DocumentSearch/DocumentImageView?doc_id=FT_1840006500484.

²⁵ MTA, *MTA Climate Adaptation Task Force Resiliency Report* at 8, available at <https://new.mta.info/document/10456>

²⁶ *Id.* at 12

- c. Elevation of electric substations on the MTA Metro-North Railroad's Hudson Line four feet above projected flood levels; and
- d. The installation of flood barriers on each side of the Hugh L. Carey Tunnel.²⁷

36. As of 2019, the MTA reported progress or completion of many of these climate resiliency projects, including elevation and replacement of substations across the system, installation of flood and debris protection walls, replacement of critical power and signaling components, flood gates at the Hugh L. Carey Tunnel, and seawall and shoreline repair at the Rockaway bridges.²⁸

C. Climate Change is Harming New York's Economy

37. Climate change is also expected to result in less frequent summer rainfall, increased evaporation, and additional, and possibly longer, summer dry periods, potentially impacting the ability of water supply systems to meet demands. Reduced summer flows on large rivers and lowered groundwater tables could lead to conflicts among competing water users.²⁹

²⁷ *Id.* at 16-27.

²⁸ MTA, *MTA Climate Adaptation Task Force 2019 Resiliency Report: Update on agency-wide climate resiliency projects*, available at <https://new.mta.info/document/10461>.

²⁹ Rosenzweig et al. 103.

38. Climate change is expected to hurt agriculture in New York State. Increased summer heat stress will negatively affect cool-season crops, requiring farmers to take adaptive measures such as shifting to more heat-tolerant crop varieties and eventually resulting in a different crop mix for New York's farmers. The loss of long cold winters could limit the productivity of apples and potatoes, as these crops require longer cold dormant periods. New York's maple syrup industry also requires specific temperature conditions in order for the sugar maples to produce sap. It is projected that sugar maple trees will be displaced to the north as the climate changes and temperatures increase. Increased weed and pest pressure associated with longer growing seasons and warmer winters will be an increasingly important challenge. Water management will be a more serious challenge for New York farmers in the future due to increased frequency of heavy rainfall events, and more frequent and intense summer water deficits by mid-to late-century.³⁰

39. Dairy farmers will also be impacted by warmer air temperatures associated with climate change. Milk production is maximized under cool conditions ranging from 41°F to 68°F.³¹ New York is the third largest producer of

³⁰ Rosenzweig et al. 236; III-69; 187-88; II-58; 222-23; 241-243.

³¹ Garcia, Alvaro. Dealing with Heat Stress in Dairy Cows. South Dakota Cooperative Extension Service. September, 2002. Page 1.

milk in the United States, behind California and Wisconsin, with 14.8 billion pounds of milk produced in 2016.³² During the unusually hot summer in 2005, declines in milk production of five to 15 pounds of milk per cow per day (an eight to 20 percent decrease) in many New York dairy herds were reported.³³ In 2016, New York reported approximately \$2.5 billion dollars of cash receipts from its dairy industry.³⁴ A loss of milk production efficiency from heat effects could result in the loss of hundreds of millions of dollars annually for New York's dairy industry.

³² Milk Production, Disposition and Income: 2016 Summary, at p. 10, United States Department of Agriculture, National Agricultural Statistics Service, April 2017, available https://www.nass.usda.gov/Publications/Todays_Reports/reports/mlkpd17.pdf

³³ Frumhoff, Peter. Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions, Northeast Climate Impacts Assessment, July 2007, p. 69.

³⁴ Milk Production, Disposition and Income: 2016 Summary, at p. 12.

40. In sum, the effects of climate change on New York will be deadly, widespread, and extremely expensive.

I declare under penalty of perjury that I believe the foregoing to be true and correct.

Executed on June 18, 2020.



Steven E. Flint, P.E.

COLLEEN A. McCARTHY
Notary Public, State of New York
Qualified in Albany County
No. 02MC5046480
Commission Expires July 27, 2021



DECLARATION OF SYLVIA ARRENDONDO
FOR THE CENTER FOR BIOLOGICAL DIVERSITY

I, Sylvia Arredondo, state and declare as follows:

1. I am over 18 years of age and competent to give this declaration. I have personal knowledge of the following facts, and if called as a witness could and would testify competently to them. As to those matters which reflect an opinion, they reflect my personal opinion and judgment on the matter.

2. I have been a member of the Center for Biological Diversity (the “Center”) since 2015, and I rely upon the Center to represent my interests in protecting our air quality and our environment by their gathering and disseminating information about air pollution, advocating for the remediation of that pollution, and enforcing our environmental laws in the courts.

3. I grew up in Wilmington and lived about a mile from a refinery and directly across the street from oil wells, drilling installations and train switching stations. As a child, I was diagnosed with mild asthma and, on one occasion, I have developed bronchitis because of it. I lived in Wilmington until I moved away to the Bay Area for college. While living in the Bay Area, I began feeling much better and my health improved. In 2012, I returned to Wilmington. Three years later, I began living in an area close to the Phillips 66 refinery, Interstate 110 freeway, and the Port of Los Angeles.

4. Four months ago, I moved from Wilmington to Long Beach,

California. I now live close to the Interstate 710 freeway, which is heavily congested with passenger cars and light trucks. I also live within eight miles of the Valero Wilmington, Marathon Carson, and Marathon Los Angeles refineries. I am employed as a Civic Engagement Coordinator for Communities for a Better Environment (“CBE”), an environmental justice organization that seeks to prevent pollution and build healthy communities and environments. I work out of CBE’s Wilmington office, which is less than a quarter mile from the Phillips 66 oil refinery, 5.5 miles from the Port of Los Angeles, and less than three miles from the Interstate 110 freeway, which carries very heavy car and truck traffic to and from the Port and the refinery.

5. I am extremely concerned and care greatly about the bad air quality where I live and work both for myself and those on whose behalf I advocate. There are approximately six refineries in and around Wilmington. These nearby refineries process enormous amounts of oil and emit large quantities of pollutants, including particulate matter (“PM2.5”) and nitrogen oxides, which are precursors for ozone (also known as “smog”). Sometimes I can smell the pollution and toxic fumes from the refinery when I drive on nearby roads or take walks in the vicinity. I often see the black soot and grime that comes from the refinery and vehicle traffic near my home and place of work.

6. I often suffer air pollution sickness due to the emissions from the

refineries, heavy traffic on nearby freeways, and the Port of Los Angeles, and when traffic and refinery pollution increases, my symptoms get worse. In 2018, I suffered from sinus infections that were worse than any I had experienced previously. In one instance, I was so sick I had to miss work for about a week. I might have lost my job if I did not work for an organization dedicated to caring for communities and people affected by air pollution. When I get sinus infections, I become extremely sensitive to light and noise, and feel painful pressure in my nasal cavities, above my eyelids, in my temples and in my ears. When my nasal cavity is inflamed, it often feels as if I have a painful ear infection. My throat becomes sore, and the discomfort and pain keep me from being able to work. I was fully incapacitated in this way twice in 2017 and once the year before. When the temperature rises, as it has in recent years, my sinus infections are more frequent and intense, and my overall health worsens. I know that the greenhouse gases produced by refineries and vehicles are responsible for the ever-rising temperatures that make air pollution and my symptoms worse.

7. I am on a medication regimen that calls for administering a nasal decongestant weekly or daily, depending on the temperature. I also take allergy tablets and prescribed eye drops to prevent my eyes from becoming dry and itchy. I try to use these medicines to preempt any air pollution sickness, but I still become incapacitated. I suffer all these effects even though I changed my diet to

make it as healthy as possible and increased my fluid intake. I use an inhaler whenever I exercise, hike, or go for a bike ride. I know it is the emissions from the oil refinery and from vehicles that make me so sick.

8. Because of my job, I am aware of many people in Wilmington who live close to the refinery, the Port of Los Angeles, and the 110 freeway and suffer from air pollution-related illnesses, such as asthma, sinus infections, other lung diseases, and even heart attacks. Particulate matter and ozone pollution are known causes for all of these conditions. Refineries like Phillips 66 in Wilmington emit benzene, which is a known carcinogen. The Wilmington area is notoriously described as a “cancer cluster,” particularly for leukemia, a cancer directly associated with benzene emissions. I know many Wilmington community members suffering from leukemia, including children already diagnosed with the disease. In 2015, my friend died of leukemia. The harmful and often lethal consequences of refinery emissions make me anxious and fearful of my own risk of contracting cancer.

9. Poor air quality also impacts my family, especially my younger nieces who are seven and five years-old, who live in Wilmington about one mile from a refinery and across the street from oil wells, and who go to elementary school near the Port, 110 freeway, and several refineries. They both have to use inhalers and nebulizers to assist their breathing. I have watched how air pollution

adversely impacts their health and prevents them from leading happy, healthy, and unencumbered lives. They must always remember to bring their inhalers to school and could be disciplined by the school if they use it without first going to the school nurse's office.

10. Because of my personal health issues from fossil-fuel-related pollution and my job duties, I am well-informed of regulations, programs, and workshops designed to reduce the air pollution affecting my health and that of the communities I serve. For example, there are state programs that provide financial assistance to low-income communities for purchasing zero-emission vehicles. At CBE, we have been advocating for greater investments for an electric bus fleet in Wilmington. Unlike other California cities, Wilmington lags far behind when it comes to embracing clean transportation technology that could drastically improve the health and wellbeing of its residents. Until recently, city buses would spew exhaust as they traveled by our office and neighboring frontline communities. Now those buses are powered by "clean" natural gas; however, what the community wants and needs most is a zero-emission fleet.

11. In 2012, the Environmental Protection Agency ("EPA") and the National Highway Traffic Safety Administration ("NHTSA") issued regulations that set increasingly stringent standards which reduce pollution, such as PM2.5, ozone precursors like nitrogen oxides, and greenhouse gases, from cars and light

trucks built during the years 2017-2025 (the “2012 Vehicle Rule”). I learned, however, that in April 2018, EPA reversed course and withdrew its 2017 final determination, finding that the 2012 Vehicle Rule was no longer appropriate, too stringent, and would be rolled back. Now, NHTSA and EPA have issued the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks” (“SAFE Vehicles Rule”). The first part of the SAFE Vehicles Rule states that federal law preempts—and on that basis revokes—California’s ability to set stricter GHG standards and require auto manufacturers to produce and sell more ZEVs (“waiver”). The second part of the SAFE Vehicles Rule will be significantly weaker on GHG pollution reduction and fuel efficiency requirements than the 2012 Vehicle Rule. I am aware that both parts of the Rule have now been finalized.

12. I am deeply concerned by the rollback of federal vehicle standards and the federal government’s attempt to revoke California’s waiver. These decisions would make it exceedingly difficult for communities like mine to reduce tailpipe emissions in our environment.

13. I fear that the federal government’s lack of support for ZEV requirements and stricter fuel economy standards will undermine national and state-level efforts that encourage investments in and adoption of electric vehicles. I am also concerned that the confusion caused by the SAFE Vehicles Rule will

cause uncertainty in the ZEV market, leading to fewer ZEVs being manufactured and available, leading to more pollution from cars and refineries, and making it less likely that I could afford to purchase a ZEV in the future. I currently drive a fuel-dependent vehicle—a 2010 Kia Forte. Two years ago, I looked into purchasing a low-emission or zero-emission vehicle. At the time, I was not able to make the investment. Now that I have paid off my Kia Forte, I have recommitted to the idea of purchasing a used zero-emission vehicle like the Nissan Leaf. I would consider purchasing a new zero-emission vehicle if the cost of the car came down due to widespread penetration of electric vehicles in the state and national market.

14. I am also concerned that SAFE Vehicles Rule will increase PM2.5, ozone-forming nitrogen oxides, and greenhouse gas emissions from Interstate 710 and 110 freeways and refineries near where I live and work, resulting in more polluted air. I am concerned these rules will increase pollution from cars on the freeway, and also from the refineries near me because people will be driving less-fuel-efficient cars and will need more gas to power them. I am very worried that, as a result, the SAFE Vehicles Rule will cause direct harm to my health. I will very likely miss more days of work due to more bouts of air pollution sickness. I am anxious about the prospect of more traumatic health experiences such as severe sinus infections, unnerving light and noise sensitivity, pressure in my head,

pain in my ears, shortness of breath, and increased risk of developing cancer. I experience fear and anxiety about how much my health and that of my community will continue to deteriorate.

15. Furthermore, I know that increased GHG emissions worsen climate change. I am also concerned that by undermining ZEVs and encouraging cars with lower gas mileage, the SAFE Vehicles Rule will harm the climate. Urban areas like mine can suffer from “heat island” effects, warming my area faster than others. Warmer temperatures increase air pollution, including ozone, and mean that I, and the communities I serve, will suffer more of the severe health consequences I have described. Wilmington is also low lying, and likely to suffer the consequences of storm surges and sea-level rise if climate change gets worse.

16. My job requires me to reach out to the community and provide information about: local air quality; air pollution emissions and their sources; impacts to public and environmental health; and how to resist these effects at a grassroots level. Neither EPA nor NHTSA has provided important information related to: the environmental and health impacts of the SAFE Vehicles Rule; an evaluation of scenarios with stricter fuel economy standards; the rationale behind the inclusion or exclusion of certain scenarios or assumptions; the effects of this rule on air pollution control efforts; and the impacts to federally-listed or critically-imperiled species and habitats.

17. This lack of information deprives me of my procedural rights to be informed of the additional impacts and burdens placed on communities like mine that are already suffering disproportionately from the degradation of the air we must breathe. I need this information as part of my job to enable members to advocate more effectively on behalf of stronger pollution control measures. For the same reason, the Center, on which I also rely to advocate for air pollution reduction, is hampered in its ability to protect me and others by sharing that information.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on June 8, 2020 at Wilmington, California.



Sylvia Arredondo

DECLARATION OF JANET DIETZKAMEI
FOR THE CENTER FOR BIOLOGICAL DIVERSITY

I, Janet DietzKamei, state and declare as follows:

1. I am over 18 years of age and competent to give this declaration. I have personal knowledge of the following facts, and if called as a witness could and would testify competently to them. As to those matters which reflect an opinion, they reflect my personal opinion and judgment on the matter.

2. I live in Fresno, California, and have lived there since 2003. I am retired from a 25-year career as a federal employee, where I worked for the Air Force, the U.S. Department of the Treasury, the Veterans' Administration, and the United States Department of Agriculture Forest Service.

3. I am deeply concerned and care greatly about the air quality in Fresno. Poor air quality in my home town and California's air-polluted Central Valley make me severely ill. I am keenly interested in doing all I can to improve the air I must breathe.

4. I have been a member of the Center for Biological Diversity (the "Center") since 2017, and I rely on the Center to represent my interests in protecting our air quality and environment by: gathering and disseminating information about air pollution, advocating for the remediation of pollution, and enforcing our environmental laws.

5. I have also been a member of the Fresno Environmental Reporting

Network (“FERN”) and Central Valley Air Quality Coalition (“CVAQ”) since December 2015 and June 2016, respectively. CVAQ and FERN are organizations that monitor and report on local air pollution and advocate on behalf of myself and other citizens to reduce that pollution.

6. I am aware that in 2012, the Environmental Protection Agency (“EPA”) and the National Highway Transportation and Safety Administration (“NHTSA”) issued fuel efficiency and greenhouse gas standards for all cars and light trucks manufactured during Model Years 2017 through 2025 (the “2012 Vehicle Rule”) and that those standards increased these vehicles’ fuel efficiency and greenhouse gas reductions every year through 2025, on a rising curve that contains steeper increases in the later years. I know that in April 2018, EPA reversed course and withdrew the final determination of the 2012 Vehicle Rule, finding that it was “not appropriate,” too stringent, and needed to be revised.

7. I’m also aware that in August 2018, NHTSA and EPA jointly released a notice of proposed rulemaking for the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021 through 2026 Passenger Cars and Light Trucks” (“SAFE Vehicles Rule”), which proposes to drastically reduce fuel economy from the 2012 Vehicles Rule. In the first part of the SAFE Vehicles Rule, NHTSA issued a preemption rule, which states that federal law preempts California’s ability under the Clean Air Act to set stricter greenhouse gas tailpipe

standards or to require auto manufacturers to produce and sell an increasing number of zero emissions vehicles (“ZEVs”), and EPA revoked California’s Clean Air Act waiver. The second part of the SAFE Vehicles Rule will result in a drastic reduction in fuel efficiency standards and means that Model Years 2021 through 2026 vehicles will combust more gasoline per mile traveled, thereby drastically increasing the amount of dangerous pollutants they emit, including ozone-forming nitrogen oxides, particulate matter (“PM2.5”), and greenhouse gases.

8. I am extremely concerned and personally injured by all parts of the SAFE Vehicles Rule, because it makes fuel efficiency standards and ZEV requirements less stringent than they were. I fear that the increased pollution from the vehicle fleet will restrict my daily life activities even more since I cannot help but breathe the pollution.

9. The SAFE Vehicles Rule directly harms my health and has concrete, direct, and frightening daily effects on my personal quality of life. I had allergies before moving to Fresno in 2003, but had never had asthma. Around 2009, I was diagnosed with asthma after having a severe reaction to an unknown trigger pollutant when I was in Virginia on vacation. Within five days of the onset of this reaction, I was in the Emergency Room (“ER”) with severe bronchitis. The consulting doctor was leaning toward admitting me to hospital. I was prescribed inhalers and other asthma relieving medications with the understanding that if I

did not improve, I would return to the ER. Until the ER visit in Virginia, I had not known that I had asthma. After I was diagnosed, I realized that I had been suffering from asthma-related sicknesses since at least 2006, three years after I moved to Fresno.

10. Air quality in Fresno and the Central Valley is among the worst in the nation. I understand that the significant number of vehicles travelling on the road contributes enormously to the pollution. My house is located about 1,400 feet from the busy Interstate 180 highway. The highway has seen a spike in traffic due to the partially complete extension; however, more congestion is expected once all 4.5 mile is finally complete. Since I purchased my home, a business park was constructed approximately 1,400 feet away, and adjacent to that is a new housing development. These sites are major contributors to increased tailpipe pollution near my home.

11. When the air quality for ozone or PM2.5 turns from “good” to “moderate,” I am immediately affected. When ozone is less than “good,” I cannot leave my house because I find it exceedingly difficult to get enough air into my lungs. When particulate matter is less than “good,” I cannot leave the house without wearing a mask. When I do leave my house, my husband must drop me off right in front of the building I am entering. Even with these precautionary measures, I still run the risk of suffering an asthma attack or becoming sick with

bronchitis or pneumonia. When I begin having an attack, I feel heaviness in my chest and cannot get air. Often I also start coughing. I feel like a fish out of water, gasping. If I am outside and begin to feel this chest pressure, shortness of breath, and/or coughing, I go into a building, a house, a car, or anywhere else that is enclosed so that I am better sheltered from the polluted air. Other effects of particulate matter and ozone air pollution on my health sometimes include sneezing and sniffing, feeling tired, achy, suffering from headaches, and feeling as if I am about to come down with a cold or flu. I also have a chronic cough when the particulate matter count increases.

12. I also cannot leave my house any time there is smoke in the air. During the months of November through February, my asthma symptoms are exacerbated by smoky air. To prevent pollutants from entering our home, my husband and I take off our outside clothing and put on clean clothing that is only worn inside the house. I have towels on my sofa and chairs that are washed after visitors sit on our furniture. No one can wear shoes inside our home. We have a nine pound in-door dog. When he returns from a walk or goes out for potty breaks, we wash his feet and wipe him with a damp towel.

13. Asthma has made me exceedingly sick. When I suffer an attack, it is very difficult to breathe. A particularly severe attack occurred in the summer of 2012 when I went outside to take my dog for a walk. Even though I wore a mask,

PM2.5 particulates and ozone were in the “moderate” level. I began having trouble breathing and getting enough oxygen into my lungs. Feeling faint and lightheaded, I panicked and turned around to go back home. I nearly lost consciousness right there on the road. I believe that only the adrenaline produced by my panic allowed me to make it back home, where I administered asthma medication and then passed out. I learned a lesson that day—the mask only protected me from the PM2.5 particulates not ozone. The entire experience was horrific.

14. Because I never want to experience such an attack again, I use multiple sources and devices to monitor air pollution in Fresno and the Central Valley. I must monitor both the PM2.5 and the ozone in my area on a daily and sometimes hourly basis because I have become increasingly sensitive to both pollutants over time. I use the San Joaquin Valley Air Pollution Control District’s Real-Time Air Advisory Network (RAAN) to monitor for ozone. I access the RAAN database through my computer or on the phone. I also receive alerts on my phone when air quality has degraded to a level where I will not be able to breathe. Even after leaving my house, I again check the RAAN database to make sure the air quality has not changed. I also have a PurpleAir Air Quality Sensor device in my yard to track PM2.5. I hang it outside at the same level where I am breathing air. Additionally, I wear a portable Wynd monitor around my neck to track air quality wherever I am at any given moment. My Wynd monitor is connected to

my in-home air purifying system in my bedroom and living room. I depend on my personal monitors, which provide up-to-date, “real-time” readings of PM2.5 air quality. I always consult my PurpleAir and Wynd monitors before going outside. This past winter, I did not become air pollution sick due to the readings I received from my PurpleAir monitor in my back yard.

15. I love to ride my bike and have been an avid outdoor person for my entire life, but now must spend most of my time inside my house. Because my activity level is so severely restricted, I now also suffer from unhealthy weight gain. To protect myself from pollutants, I always check the air quality before going to the gym to do some water aerobics. If there is an unexpected trigger when I do drive to the gym, I cannot walk from the parking lot to the gym because I begin to feel an asthma attack coming on. I end up having to go back home. Many of my friends and acquaintances and their children who live in Fresno or elsewhere in the Central Valley suffer from asthma or other severe health complications because of the air pollution caused by motor vehicles. I am concerned for them as well and fear for their well-being. During periods when air pollution is above moderate, many asthmatics end up in Central Valley Emergency Rooms and hospitals. I do all I can to avoid becoming so ill.

16. Now that EPA and NHTSA have proposed the SAFE Vehicles Rule, I am afraid that ozone-forming nitrogen oxides, PM2.5, and greenhouse gases will

increase. As a result, the air I must breathe will continue to be too polluted for me to participate or enjoy outdoor activities for fear of getting sick. My only option is to stay locked in my home as much as possible.

17. Because of the out-sized influence air quality has on my daily life, I am active in learning about and disseminating information about Fresno's poor air quality and its causes. When the air quality permits it, I speak about the effects of air pollution on my health at local, district, and state-level air quality board meetings. I routinely travel to Sacramento to speak to lawmakers on this subject. I also participate in air quality improvement workshops and training regarding California's array of electric vehicle programs. For example, I regularly attend the Air Resource Board's meetings and workshops regarding the proposed Advanced Clean Truck Regulation, which, if implemented, would require manufacturers to sell zero-emission trucks as a greater percentage of their annual state sales from 2024 to 2030. I also participate in and follow Fresno City Plans to develop strategies to reduce city vehicle usage, including promoting and improving city transportation such as bus service. As a member of CVAQ, I advocated for much-needed infrastructure and investment to increase the adoption of electric vehicles in my community and throughout California. California's Zero-Emission Vehicle mandate makes it easier for advocates like me to persuade leaders and encourage communities to support the state's clean transportation initiatives and future.

18. I am a proud owner of a 2018 Chevrolet electric vehicle, which has a driving range of approximately 238 miles when fully charged. Due to the lack of dependable charging infrastructure in California, I must also own an internal combustion engine vehicle so that I can reliably travel from San Joaquin Valley to the Bay Area and Sacramento without having to worry about whether or not I will be able to charge my vehicle when necessary. I would gladly trade in my gas-guzzling car if the range of ZEVs improved and if more charging infrastructure were available throughout the state. The SAFE Vehicles Rule causes direct and severe harm to me personally. I am concerned that my health will continue to suffer and get even worse, and my quality of life cannot improve. I suffer emotional distress knowing that the 2012 Vehicle Rule has been withdrawn and may be replaced by the less stringent SAFE Vehicles Rule.

19. The announcement of the SAFE Vehicles Rule has deprived me of vital information, including: an analysis of the environmental and health impacts of the proposed rule; an evaluation of scenarios with stricter fuel economy standards; the rationale behind the inclusion or exclusion of certain scenarios or assumptions; the effects of this proposed rule on federal and state air pollution control efforts; and the impact(s) to federally-listed or critically-imperiled species and habitats. Furthermore, the SAFE Vehicles Rule has limited my ability to effectively communicate with others about this action so it might be stopped, or to

rely on the Center to do so. As such, the lack of information has harmed my procedural rights as a citizen and a member of the Center.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on November 22, 2019 at Fresno, California.



Janet DietzKamei

DECLARATION OF SHAYE WOLF
FOR THE CENTER FOR BIOLOGICAL DIVERSITY

I, Shaye Wolf, declare as follows:

The facts set forth in this declaration are based on my personal knowledge and if called as a witness, I could and would testify competently thereto under oath.

Professional Background

1. I reside in the city of Kensington, California.
2. I am the Climate Science Director for the Center for Biological Diversity's ("Center") Climate Law Institute, where I have worked since 2007. I received my Bachelor of Science degree in Biology at Yale University, my Master of Science degree in Ocean Sciences at the University of California, Santa Cruz, and my Ph.D. in Ecology and Evolutionary Biology from the University of California, Santa Cruz. My doctoral work, focused on forecasting the effects of climate change on seabird populations along the west coast of the United States, was published in *Global Change Biology and Ecology*.¹

¹ Shaye G. Wolf et al., *Predicting population consequences of ocean climate change for an ecosystem sentinel, the seabird Cassin's auklet*, 16 GLOBAL CHANGE BIOLOGY 1923 (2010); Shaye G. Wolf et al., *Range-wide reproductive consequences of marine climate variability for the seabird Cassin's auklet*, 90 ECOLOGY 742 (2009).

3. In my role as Climate Science Director for the Center's Climate Law Institute, I have developed expertise in the identification and mitigation of the harms from anthropogenic climate change to human communities, species and ecosystems. In my role, I regularly review scientific studies and reports on climate change; communicate with scientists and the public about climate change; attend scientific conferences on climate change; author technical comments, reports, and other publications on the harms of climate change to human communities, species, and ecosystems; contribute to climate change mitigation and adaptation plans; and support the Center for Biological Diversity's work fighting the climate crisis by urging and compelling all levels of government to implement urgent, large-scale cuts in greenhouse gas pollution—focused on phasing out fossil fuel production and combustion—to avoid devastating harms from climate change.

The world faces a climate change emergency with widespread and escalating harms, driven by greenhouse gas emissions from fossil fuel combustion.

4. The science is clear that the world faces a climate emergency. An international scientific consensus has established that human-caused climate change is already causing widespread harms, climate change threats are escalating and becoming increasingly dangerous, and fossil fuels are the dominant driver of the climate crisis.

5. The Intergovernmental Panel on Climate Change (IPCC), the international scientific body for the assessment of climate change, concluded in its 2014 Fifth Assessment Report that: “[w]arming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen,” and further that “[r]ecent climate changes have had widespread impacts on human and natural systems.”²

6. Moreover, the U.S. federal government has repeatedly recognized that human-caused climate change is causing widespread and intensifying harms across the country in the authoritative National Climate Assessments, scientific syntheses prepared by hundreds of scientific experts and reviewed by the National Academy of Sciences and federal agencies, including the U.S. Environmental Protection Agency (EPA) and Department of Transportation. Most recently, the Fourth National Climate Assessment, comprised of the 2017 *Climate Science Special*

² INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014: SYNTHESIS REPORT. CONTRIBUTION OF WORKING GROUPS I, II AND III TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2014) at 2, https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf.

Report (Volume I)³ and the 2018 *Impacts, Risks, and Adaptation in the United States* (Volume II),⁴ concluded that “there is no convincing alternative explanation” for the observed warming of the climate over the last century other than human activities.⁵ It found that “evidence of human-caused climate change is overwhelming and continues to strengthen, that the impacts of climate change are intensifying across the country, and that climate-related threats to Americans’ physical, social, and economic well-being are rising.”⁶

7. In 2009, the U.S. Environmental Protection Agency found that the then-current and projected concentrations of greenhouse gas pollution endanger the public health and welfare of current and future generations, based on robust scientific evidence of the harms from climate change.⁷ On that basis, EPA began to regulate greenhouse gas emissions under the Clean Air Act. A 2018 study

³ U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT, VOL. I (2017), <https://science2017.globalchange.gov/>.

⁴ U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018), <https://nca2018.globalchange.gov/>.

⁵ U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT, VOL. I (2017) at 10.

⁶ U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018) at 36, <https://nca2018.globalchange.gov/>.

⁷ U.S. Environmental Protection Agency, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule, 74 Federal Register 66496 (Dec. 15, 2009).

reviewed the scientific evidence that has emerged since 2009 and concluded that this evidence “lends increased support” for EPA’s endangerment finding.⁸ The study by 16 prominent scientists examined the topics covered by the endangerment finding and concluded that “[f]or each of the areas addressed in the [endangerment finding], the amount, diversity, and sophistication of the evidence has increased dramatically, clearly strengthening the case for endangerment.”⁹ The study also found that the risks of some impacts are even more severe or widespread than anticipated in 2009.¹⁰

8. Further, the National Climate Assessments and the IPCC decisively recognize the dominant role of fossil fuels in driving climate change. As stated by the Third National Climate Assessment: “observations unequivocally show that climate is changing and that the warming of the past 50 years is primarily due to human-induced emissions of heat-trapping gases. These emissions come mainly from burning coal, oil, and gas.”¹¹ The Fourth National Climate Assessment

⁸ Philip B. Duffy et al., *Strengthened scientific support for the Endangerment Finding for atmospheric greenhouse gases*, 363 *SCIENCE* 1 (2019) at 1.

⁹ *Ibid.*

¹⁰ *Ibid.*

¹¹ U.S. GLOBAL CHANGE RESEARCH PROGRAM, *CLIMATE CHANGE IMPACTS IN THE UNITED STATES: THE THIRD NATIONAL CLIMATE ASSESSMENT* (Jerry M. Melillo et al., eds. 2014),

http://s3.amazonaws.com/nca2014/high/NCA3_Climate_Change_Impacts_in_the_United%20States_HighRes.pdf at 2. *See also* Report Finding 1 at 15: “The global warming of the past 50 years is primarily due to human activities, predominantly the burning of fossil fuels.”

reported that “fossil fuel combustion accounts for approximately 85 percent of total U.S. greenhouse gas emissions,”¹² which is “driving an increase in global surface temperatures and other widespread changes in Earth’s climate that are unprecedented in the history of modern civilization.”¹³ The IPCC stated in its Fifth Assessment Report that “[c]arbon dioxide concentrations have increased by 40% since pre-industrial times, primarily from fossil fuel emissions.”¹⁴

The transportation sector, including fossil fuel pollution from cars and light-duty trucks, is a significant contributor to U.S. greenhouse gas emissions.

9. Fossil fuel emissions from internal combustion engine vehicles (ICEVs) are a significant component of global and U.S. greenhouse gas pollution. In 2017 the transportation sector was responsible for nearly one-quarter (24 percent) of global greenhouse gas emissions, with cars and trucks comprising the largest source (i.e., road transport emissions made up three-quarters of global

¹² U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018) at 60.

¹³ *Id.* at 39.

¹⁴ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SUMMARY FOR POLICYMAKERS, CLIMATE CHANGE 2013: THE PHYSICAL SCIENCE BASIS, CONTRIBUTION OF WORKING GROUP I TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (Stocker, T.F. et al eds. 2013) at 9, https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_SPM_FINAL.pdf.

transportation sector emissions).¹⁵ In the United States, the transportation sector was the largest contributor to greenhouse gas emissions in 2018, accounting for nearly 28 percent of total U.S. greenhouse gas emissions.¹⁶ In terms of CO₂ pollution, the transportation sector accounted for nearly 36 percent of total U.S. CO₂ emissions from fossil fuel combustion in 2018, with passenger cars as the largest source at 41.0 percent and light-duty trucks comprising another 17.5 percent.¹⁷ In the global context, the U.S. is responsible for one quarter of global light-duty vehicle emissions.¹⁸

10. In California, the level of zero emission vehicle (ZEV) adoption will have a direct impact on the state's ability to meet its mid-century climate goals. Executive Order B-55-18, issued by former Governor Brown in 2018, set the goal of achieving carbon neutrality by no later than 2045, and achieving and maintaining net negative emissions thereafter. To meet these goals, all major

¹⁵ INTERNATIONAL ENERGY AGENCY, CO₂ EMISSIONS FROM FUEL COMBUSTION: HIGHLIGHTS (2019), at 11, 13, https://iea.blob.core.windows.net/assets/eb3b2e8d-28e0-47fd-a8ba-160f7ed42bc3/CO2_Emissions_from_Fuel_Combustion_2019_Highlights.pdf.

¹⁶ U.S. ENVIRONMENTAL PROTECTION AGENCY, DRAFT INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS, 1990-2018 (2020) at ES-26, <https://www.epa.gov/sites/production/files/2020-02/documents/us-ghg-inventory-2020-main-text.pdf>.

¹⁷ *Id.* at ES-13.

¹⁸ UNITED NATIONS ENVIRONMENT PROGRAMME, EMISSIONS GAP REPORT 2019, UNEP, Nairobi (2019) at 60, <https://www.unenvironment.org/resources/emissions-gap-report-2019>.

economic sectors, including the transportation, industrial, electric power, commercial, residential, and agriculture sectors, have to be, in effect, fully decarbonized.¹⁹ Transportation constitutes the greatest share of California's greenhouse gas emissions, accounting for 40% of the state's total emissions.²⁰ As light-duty passenger vehicles alone amount to 70% of the state's transportation emissions and nearly 30% of the state's total emissions,²¹ rapidly phasing in zero-emission vehicles (ZEVs) and phasing out internal combustion engine vehicles (ICEVs) are foundational components to decarbonizing California's transport sector, in line with the executive order. Considering that even the state's 2045 goal may not be restrictive enough to represent California's fair share of the reductions needed to keep warming below 1.5°C (i.e., as discussed below, the estimated U.S. "fair share" of emissions reductions needed to meet a 1.5°C climate target equates

¹⁹ See e.g., CALIFORNIA COUNCIL ON SCIENCE & TECHNOLOGY [CCST], CCST EXPERT BRIEFING, CALIFORNIA'S PATHWAYS TO CARBON NEUTRALITY (2018), <https://ccst.us/wp-content/uploads/CCST-OnePager-Pathways-to-Carbon-Neutrality-2018-12-17-2.pdf>.

²⁰ See CALIFORNIA AIR RESOURCES BOARD, CALIFORNIA GREENHOUSE GAS EMISSIONS FOR 2000 TO 2016 (2018 ED.), https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2016/ghg_inventory_trends_00-16.pdf.

²¹ M. TAYLOR, ASSESSING CALIFORNIA'S CLIMATE POLICIES—TRANSPORTATION, CALIFORNIA LEGISLATIVE ANALYST'S OFFICE (2018). Importantly, any electrification of passenger vehicles must be coupled with the deployment of clean and renewable energy sources to fuel the electricity supply.

to cutting domestic emissions to near zero by 2040), the importance of the state pursuing ambitious ZEV adoption is apparent.

11. At the same time, ICEVs threaten the public health and safety of Californians. According to the American Lung Association, air pollution from ICEVs resulted in \$15 billion in health and climate costs in California in 2015 alone, including costs related to respiratory illness, premature mortality, and lost work days.²² The rapid electrification of passenger vehicles, coupled with decreasing vehicle miles traveled through public transit improvements, is necessary to combatting California's egregious air pollution problems.

Global greenhouse gas emissions must be cut in half by 2030 to avoid catastrophic damages from the climate crisis, with faster emissions reductions required in the United States, highlighting the need for rapid decarbonization of the transportation sector.

12. In 2018, the Intergovernmental Panel on Climate Change (IPCC) *Special Report on Global Warming of 1.5°C* provided overwhelming scientific evidence for the necessity of immediate, deep greenhouse gas reductions across all sectors to avoid devastating climate change-driven damages, and underscored the

²² See AMERICAN LUNG ASSOCIATION, CLEAN AIR FUTURE (October 2016) at 14, <https://www.lung.org/local-content/california/documents/2016zeroemissions.pdf>.

high costs of inaction or delays, particularly in the next crucial decade, in making these cuts. The IPCC *Special Report* quantified the harms that would occur at 2°C warming compared with 1.5°C warming, and highlighted the necessity of limiting warming to 1.5°C to avoid catastrophic impacts to people and life on Earth.²³

According to the IPCC's analysis, the damages that would occur at 2°C warming compared with 1.5°C are stark, including significantly more deadly heatwaves, drought and flooding; 10 centimeters of additional sea level rise within this century, exposing 10 million more people to flooding; a greater risk of triggering the collapse of the Greenland and Antarctic ice sheets with resulting multi-meter sea level rise; dramatically increased species extinction risk, including a doubling of the number of vertebrate and plant species losing more than half their range, and the virtual elimination of coral reefs; 1.5 to 2.5 million more square kilometers of thawing permafrost area with the associated release of methane, a potent greenhouse gas; a tenfold increase in the probability of ice-free Arctic summers; a higher risk of heat-related and ozone-related deaths and the increased spread of mosquito-borne diseases such as malaria and dengue fever; reduced yields and

²³ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5°C, AN IPCC SPECIAL REPORT ON THE IMPACTS OF GLOBAL WARMING OF 1.5°C ABOVE PRE-INDUSTRIAL LEVELS AND RELATED GLOBAL GREENHOUSE GAS EMISSION PATHWAYS, IN THE CONTEXT OF STRENGTHENING THE GLOBAL RESPONSE TO THE THREAT OF CLIMATE CHANGE, SUSTAINABLE DEVELOPMENT, AND EFFORTS TO ERADICATE POVERTY (2018), <https://www.ipcc.ch/sr15/>.

lower nutritional value of staple crops like corn, rice, and wheat; a doubling of the number of people exposed to climate change-induced increases in water stress; and up to several hundred million more people exposed to climate-related risks and susceptible to poverty by 2050.²⁴

13. The IPCC emphasized that pathways consistent with limiting warming to 1.5°C require “rapid and far-reaching transitions” across all sectors including transport.²⁵ At the global level, 1.5°C pathways require global net anthropogenic CO₂ emissions to decline by about 45 percent below 2010 levels by 2030, and to reach near zero around 2045 or 2050.²⁶

14. The United States and other wealthy nations have a responsibility to make much larger emissions reductions than the global average, due to their dominant role in driving climate change and its harms, combined with their greater financial resources and technical capabilities to implement emissions cuts and transition to clean energy. The U.S. is the world’s largest historic emitter of greenhouse gas pollution, responsible for 25 percent of cumulative global CO₂ emissions since 1870, and is currently the world’s second highest emitter on an

²⁴ *Id.* at SUMMARY FOR POLICYMAKERS 7-11.

²⁵ *Id.* at SUMMARY FOR POLICYMAKERS 15.

²⁶ *Id.* at SUMMARY FOR POLICYMAKERS 12.

annual and per capita basis.²⁷ Clearly the U.S. has a responsibility to lead in phasing out fossil fuel production and use and rapidly transition to clean energy.

15. Estimates of an equitable U.S. “fair share” of emissions reductions needed to meet a 1.5°C climate target make clear that the U.S. must rapidly decarbonize across all sectors, including transportation. Using an equity approach based on responsibility and capability, the U.S. fair share of emissions reductions for meeting a 1.5°C Paris target equates to cutting U.S. domestic emissions by at least 60 to 70% below 2005 levels by 2030 and reaching near zero emissions by 2040, paired with financial and technological support for large-scale emissions reductions internationally.²⁸ The U.S. simply has no time to delay in decarbonizing the transportation sector, particularly since the technologies to do so are already available.

16. The authoritative 2019 United Nations Environment Programme *Emissions Gap Report* concluded that limiting warming to 1.5°C requires countries to strengthen their climate pledges fivefold to cut emissions by at least 7.6 percent

²⁷ Corinne LeQuéré et al., *Global carbon budget 2018*, 10 EARTH SYST. SCI. DATA 2141 (2018) at Figure 5, 2167; GLOBAL CARBON PROJECT, GLOBAL CARBON BUDGET 2018 (Dec 5, 2018) https://www.globalcarbonproject.org/carbonbudget/18/files/GCP_CarbonBudget_2018.pdf at 19 (See Historical cumulative fossil CO₂ emissions by country).

²⁸ Christian Holz, et al., *The Climate Equity Reference Calculator*, 4 J. OF OPEN SOURCE SOFTWARE 35, 1273. DOI:10.21105/joss.01273. *The Climate Equity Reference Calculator* is available at <https://climateequityreference.org/>

per year through 2030, for a total emissions reduction of 55 percent between 2020 and 2030.²⁹

17. Importantly, the report concluded that the U.S. “in particular” must ramp up climate action to meet global climate targets and its pledge under the Paris Agreement.³⁰ The report specifically identified the urgent need for stronger emissions cuts in the U.S. transportation sector which is responsible for a quarter of global light-duty vehicle emissions.³¹ The report pointed out that the Trump Administration’s freezing of the vehicle emissions and fuel economy standards for cars and light-duty trucks would significantly increase greenhouse gas emissions.³² To be consistent with Paris climate targets, the report recommends that the U.S. instead “strengthen vehicle and fuel economy standards to be in line with zero emissions for new cars in 2030.”³³

18. The report warned that further delays in emissions cuts threaten the global economy, food security, and biodiversity: “Further delaying the reductions

²⁹ UNITED NATIONS ENVIRONMENT PROGRAMME, EMISSIONS GAP REPORT 2019, UNEP, Nairobi (2019), <https://www.unenvironment.org/resources/emissions-gap-report-2019> at XV, XX, 26.

³⁰ *Id.* at 12 (“the main contributions would need to come in particular from the United States of America.”) and 11 (Table 2.2 shows the U.S. on course to exceed its pledge under the Paris Agreement by 16.5 percent by 2030 under current policy).

³¹ *Id.* at 60.

³² *Id.* at 20.

³³ *Id.* at 37.

needed to meet the goals would imply future emission reductions and removal of CO₂ from the atmosphere at such a magnitude that it would result in a serious deviation from current available pathways. This, together with necessary adaptation actions, risks seriously damaging the global economy and undermining food security and biodiversity.”³⁴

19. Similarly, a 2019 study emphasized that immediately phasing out fossil fuel-powered vehicles is critical for keeping warming below 1.5°C.³⁵ The study concluded that phasing out all fossil fuel infrastructure at the end of its design lifetime, starting immediately, preserves a 64 percent chance of keeping peak global mean temperature rise below 1.5°C.³⁶ This includes replacing internal combustion engine vehicles with zero carbon alternatives at the end of their lifespans, starting now. The study found that delaying this phase-out until 2030 reduces the likelihood that 1.5°C would be attainable. In other words, every year of delay in phasing out fossil fuel infrastructure including ICEVs makes “lock-in” more difficult to escape and the possibility of keeping global temperature rise below 1.5°C less likely.

³⁴ *Id.* at XX.

³⁵ Christopher J. Smith et al., *Current fossil fuel infrastructure does not yet commit us to 1.5°C warming*, Nature Communications, doi.org/10.1038/s41467-018-07999-w (2019).

³⁶ *Id.* at 1.

Instead of contributing to the decarbonization of the transportation sector, the SAFE Rule will increase greenhouse gas pollution and criteria pollutant emissions from cars and light-duty trucks.

20. At a time when the U.S. must rapidly decarbonize the transportation sector, the Trump administration's Safer Affordable Fuel Efficient (SAFE) Vehicles Rule for Model Years 2021-2026, paired with the revocation of California's waiver authority under Section 209 of the Clean Air Act under Part One of the SAFE Rule, would take the U.S. in the opposite direction by increasing greenhouse gas pollution from light-duty cars and trucks, as compared to the standards finalized under the Obama administration. According to analysis by EPA and the National Highway Traffic Safety Administration (NHTSA) which likely underestimate the greenhouse gas impacts of the rule, the SAFE Rule would result in substantial additional carbon emissions: approximately 867 to 923 million metric tons of additional CO₂ emissions over the lifetimes of vehicles through Model Year (MY) 2029³⁷ and an additional 7.8 billion metric tons of CO₂ emissions between 2021 to 2100, compared to the No Action Alternative.³⁸ In

³⁷ National Highway Traffic Safety Administration, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021–2026 Passenger Cars and Light Trucks, Final Rule, 85 Federal Register 24174 (April 30, 2020) (“Final Rule”) at 24176, Tables I-5, I-6, VII-116, VII-117, VII-118, VII-119.

³⁸ National Highway Traffic Safety Administration, Final Environmental Impact Statement for the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model

addition, according to EPA and NHTSA, the Rule would result in increased emissions of two other potent greenhouse gases: 1.116 to 1.182 million metric tons of additional methane emissions and 19,500 to 24,300 metric tons of additional nitrous oxide emissions over the lifetimes of vehicles through MY 2029, compared with the No Action Alternative.³⁹

21. An independent analysis estimated that the SAFE Rule would result in an additional 1.5 billion metric tons of climate pollution by 2040—an amount equivalent to the total pollution from 68 coal plants operating for five years.⁴⁰

22. The SAFE Rule will also increase emissions of criteria pollutants including NO_x, VOC, PM, and SO₂⁴¹ that are harmful to public health, wildlife and ecosystems. For example, EPA and NHTSA estimated that the SAFE Rule would result in a cumulative increase in NO_x of 20,500 to 25,500 metric tons over the lifetime of vehicles through MY 2029, compared to the No Action Alternative.⁴² EPA and NHTSA also estimated that the SAFE Rule would result in a cumulative increase in SO₂ of 22,400 metric tons over the lifetimes of vehicles through MY

Year 2021–2026 Passenger Cars and Light Trucks, March 2020, (“FEIS”) at Table 5.4.1-1.

³⁹ FEIS at 5-36; Final Rule at Tables VII-117, VII-119.

⁴⁰ ENVIRONMENTAL DEFENSE FUND, TRUMP ADMINISTRATION MOVES AHEAD WITH HARMFUL CLEAN CARS ROLLBACK, https://www.edf.org/sites/default/files/Cars_Final_Rollback_Factsheet.pdf.

⁴¹ Final Rule at Tables VII-120 to VII-127.

⁴² Final Rule at Tables VII-120, VII-121, VII-122, VII-123.

2029, although the agencies alternately estimated the potential for a cumulative decrease in SO₂ from the rule.⁴³

23. In short, the SAFE rule would escalate the dangers and damages of the climate crisis, harm public health and ecosystem health, and put the U.S. and rest of the world in further jeopardy.

24. Instead, the U.S. Environmental Protection Agency and National Highway Traffic Safety Administration must take urgent action to significantly and steadily reduce emissions from passenger cars and light-duty trucks and push for the prompt, widespread adoption of zero emission vehicles to avoid the worst consequences of the climate crisis. These actions would make a significant contribution to lowering the U.S.'s greenhouse gas emissions and help put the U.S. on the path to avoiding catastrophic damages from the climate crisis. As detailed below, each cumulative increase in greenhouse gas emissions, especially over this critical decade, means that meeting a 1.5°C target becomes less likely, pushes the Earth toward climate tipping points, and increases devastating harms to current and future generations.

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⁴³ Final Rule at Tables VII-120, VII-121, VII-122, VII-123.

U.S. and global greenhouse gas emissions have continued to rise because of inadequate climate action.

25. Because of U.S. failures to show climate leadership, as exemplified by the SAFE Rule and other rollbacks of climate regulations by the Trump administration, U.S. greenhouse gas emissions have continued to increase. The U.S. Environmental Protection Agency estimated that U.S. CO₂ emissions from fossil fuel combustion increased by 2.9 percent between 2017 and 2018, with emissions rising across all sectors including transportation.⁴⁴ According to the EPA *Inventory of U.S. Greenhouse Gas Emissions and Sinks*, 2018 CO₂ emissions from passenger cars were 1.8 percent higher than 2014 levels, 16 percent higher than 2005 levels, and 22 percent higher than 1990 levels.⁴⁵ As one analysis warned, “the U.S. was already off track in meeting its Paris Agreement targets” and the steep emissions increase in 2018 has made the gap even wider.⁴⁶

26. The 2019 UN *Emissions Gap Report* similarly warned that the United States is vastly off-track to limit warming to 1.5°C or even 2°C and must greatly

⁴⁴ U.S. ENVIRONMENTAL PROTECTION AGENCY, DRAFT INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS, 1990-2018, <https://www.epa.gov/sites/production/files/2020-02/documents/us-ghg-inventory-2020-main-text.pdf> at ES-11, ES-13.

⁴⁵ *Id.* at 2-31.

⁴⁶ RHODIUM GROUP, PRELIMINARY US EMISSIONS ESTIMATES FOR 2018, ENERGY AND CLIMATE STAFF (January 8, 2019), <https://rhg.com/research/preliminary-us-emissions-estimates-for-2018/>.

accelerate greenhouse gas emissions reductions.⁴⁷ At the global level, the report found that global greenhouse gas emissions have risen by 1.5 percent per year in the last decade—with warming projected to reach 3.2°C by the end of the century based on the insufficient climate pledges (i.e., Nationally Determined Contributions) by the U.S. and other countries under the Paris Agreement.⁴⁸

27. As emissions continue to rise, the average global atmospheric CO₂ concentration in 2018 reached 405 parts per million (ppm), a level not seen for millions of years.⁴⁹ The last time CO₂ in Earth's atmosphere was at 400 ppm, global mean surface temperatures were 2 to 3°C warmer and the Greenland and West Antarctic ice sheets melted, leading to sea levels that were 10 to 20 meters higher than today.⁵⁰ The current atmospheric CO₂ concentration is nearly one and half times larger than the pre-industrial level of 280 ppm, and much greater than

⁴⁷ UNITED NATIONS ENVIRONMENT PROGRAMME EMISSIONS GAP REPORT 2019, UNEP, Nairobi (2019), <https://www.unenvironment.org/resources/emissions-gap-report-2019> at 37.

⁴⁸ *Id.* at XIV, XIX, 27.

⁴⁹ Corinne LeQuéré et al., *Global carbon budget 2018*, 10 EARTH SYST. SCI. DATA 2141 (2018); WORLD METEOROLOGICAL ORGANIZATION, WMO GREENHOUSE GAS BULLETIN, NO. 13, (OCTOBER 30, 2017) at 5, https://library.wmo.int/doc_num.php?explnum_id=4022.

⁵⁰ WORLD METEOROLOGICAL ORGANIZATION, WMO GREENHOUSE GAS BULLETIN, NO. 13 (OCTOBER 30, 2017) at 5, https://ane4bf-datap1.s3-eu-west-1.amazonaws.com/wmocms/s3fs-public/ckeditor/files/GHG_Bulletin_13_EN_final_1_1.pdf?LGJNmHpwKkEG2Qw4mEQjdm6bWxgWAJHa.

levels during the past 800,000.⁵¹ The atmospheric concentrations of methane (CH₄) and nitrous oxide (N₂O), two other potent greenhouse gases, are 257 percent and 122 percent of their pre-industrial levels.⁵² Global carbon emissions over the past 15 to 20 years have tracked the highest emission scenario used in IPCC climate projections, the RCP8.5 scenario⁵³ which is projected to lead to devastating impacts.⁵⁴

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⁵¹ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014: SYNTHESIS REPORT. CONTRIBUTION OF WORKING GROUPS I, II AND III TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2014) at 4, 44; WORLD METEOROLOGICAL ORGANIZATION, WMO GREENHOUSE GAS BULLETIN, No. 13 (OCTOBER 30, 2017) at 1, 4.

⁵² *Id.* at 2.

⁵³ U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME I (2017) at 31, 133, 134, and 152 (*e.g.* “The observed increase in global carbon emissions over the past 15–20 years has been consistent with higher scenarios (*e.g.*, RCP8.5) (*very high confidence*)” at 31).

⁵⁴ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014: SYNTHESIS REPORT. CONTRIBUTION OF WORKING GROUPS I, II AND III TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2014) at Figure 2.1.

The climate crisis, driven by rising greenhouse gas emissions, is causing widespread, escalating, catastrophic harms in the United States and worldwide, leaving no room for delay in making rapid, aggressive cuts in greenhouse gas pollution.

28. The National Climate Assessments, based on thousands of scientific studies, establish that rising greenhouse gas emissions—and resulting human-caused climate change—are causing widespread harms in the United States and worldwide, and these harms will worsen as greenhouse gas pollution continues to rise. As detailed in the Assessments and the IPCC 2019 *Special Report on the Ocean and Cryosphere*, key climate change impacts include rising temperatures, the increasing frequency of heat waves and other extreme weather events, the flooding of coastal regions by rising seas and increasing storm surge, the intensification of Atlantic hurricanes' destructive power, the rapid loss of Arctic sea ice and the collapse of Antarctic ice shelves, declining food and water security, ocean acidification, increasing species extinction risk, the global collapse of coral reefs, and devastating economic losses.⁵⁵ As summarized by the Fourth National

⁵⁵ U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE CHANGE IMPACTS IN THE UNITED STATES: THE THIRD NATIONAL CLIMATE ASSESSMENT (Jerry M. Melillo et al. eds. 2014); U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT, VOL. I (2017); U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018); Nirilie Abram et al., *Summary for Policymakers, in* IPCC SPECIAL REPORT ON THE

Climate Assessment, “Thousands of studies conducted by researchers around the world have documented changes in surface, atmospheric, and oceanic temperatures; melting glaciers; diminishing snow cover; shrinking sea ice; rising sea levels; ocean acidification; and increasing atmospheric water vapor.”⁵⁶

29. Chief among its harms, human-caused climate change poses serious threats to public health and well-being.⁵⁷ The Fourth National Climate Assessment concluded that “[t]he health and well-being of Americans are already affected by climate change, with the adverse health consequences projected to worsen with additional climate change.”⁵⁸ The health impacts from climate change include increased exposure to heat waves, floods, droughts, and other extreme weather events; increases in infectious diseases; decreases in the quality and safety of air, food, and water including rising food insecurity and increases in air pollution;

OCEAN AND CRYOSPHERE IN A CHANGING CLIMATE (H.-O. Pörtner et al., eds. 2019), <https://www.ipcc.ch/srocc/>.

⁵⁶ U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT, VOL. I (2017) at 10.

⁵⁷ U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018) at 540; U.S. GLOBAL CHANGE RESEARCH PROGRAM, THE IMPACTS OF CLIMATE CHANGE ON HUMAN HEALTH IN THE UNITED STATES: A SCIENTIFIC ASSESSMENT (2016); U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE CHANGE IMPACTS IN THE UNITED STATES: THE THIRD NATIONAL CLIMATE ASSESSMENT (Jerry M. Melillo et al. eds. 2014) at 220.

⁵⁸ U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018) at 540.

displacement; and stresses to mental health and well-being.⁵⁹ Although everyone is vulnerable to health harms from climate change, populations experiencing greater health risks include children, older adults, low-income communities, some communities of color, immigrant groups, and persons with disabilities and pre-existing medical conditions.⁶⁰ The 2015 Lancet Commission on Health and Climate Change warned that climate change is causing a global medical emergency, concluding that “the implications of climate change for a global population of 9 billion people threatens to undermine the last half century of gains in development and global health.”⁶¹

30. Climate change-driven health impacts are already occurring in the United States, particularly from illnesses and deaths caused by extreme weather

⁵⁹ *Ibid*; U.S. GLOBAL CHANGE RESEARCH PROGRAM, THE IMPACTS OF CLIMATE CHANGE ON HUMAN HEALTH IN THE UNITED STATES: A SCIENTIFIC ASSESSMENT (2016); U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE CHANGE IMPACTS IN THE UNITED STATES: THE THIRD NATIONAL CLIMATE ASSESSMENT (Jerry M. Melillo et al. eds. 2014) at 221; Perry Sheffield & Philip J. Landrigan, *Global climate change and children’s health: Threats and strategies for prevention*, 119 ENVIRON. HEALTH PERSPECTIVES 291 (2011).

⁶⁰ U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018) at 548; U.S. GLOBAL CHANGE RESEARCH PROGRAM, THE IMPACTS OF CLIMATE CHANGE ON HUMAN HEALTH IN THE UNITED STATES: A SCIENTIFIC ASSESSMENT (2016).

⁶¹ Nick Watts et al., *Health and climate change: policy responses to protect public health*, 386 THE LANCET 1861 (2015) at 1861.

events which are increasing in frequency and intensity.⁶² Heat is the leading cause of weather-related deaths in the U.S., and extreme heat is projected to increase future mortality on the scale of thousands to tens of thousands of additional premature deaths per year across the U.S. by the end of this century.⁶³ Hot days have been conclusively linked to an increase in heat-related deaths and illnesses—particularly among older adults, pregnant women, and children—including cardiovascular and respiratory complications, renal failure, electrolyte imbalance, kidney stones, negative impacts on fetal health, and preterm birth.⁶⁴ One study estimated that nearly one-third of the world’s population is currently exposed to a deadly combination of heat and humidity for at least 20 days a year, and that percentage is projected to rise to nearly three-quarters by the end of the century without deep cuts in greenhouse gas pollution, with particular impacts to the southeastern U.S.⁶⁵

⁶² U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018) at 541.

⁶³ U.S. GLOBAL CHANGE RESEARCH PROGRAM, THE IMPACTS OF CLIMATE CHANGE ON HUMAN HEALTH IN THE UNITED STATES: A SCIENTIFIC ASSESSMENT (2016).

⁶⁴ U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018) at 544-545.

⁶⁵ Camilo Mora et al., *Global risk of deadly heat*, 7 NATURE CLIMATE CHANGE 501 (2017).

31. Extreme precipitation events have become more common in the United States, contributing to increases in severe flooding in some regions.⁶⁶ Without urgent climate action, heavy precipitation events are projected to increase in frequency and intensity across the United States, with the number of extreme events rising by two to three times the historical average by the end of the century under a higher emissions scenario.⁶⁷ Floods are the second deadliest of all weather-related hazards in the United States and can lead to drowning, contaminated drinking water, and mold-related illnesses.⁶⁸

32. Human-caused climate change is also worsening the destructive power of hurricanes by increasing their intensity, rainfall and storm surge—ramping up the risks to lives and property. Because hurricanes are fueled by heat, rising ocean temperatures are increasing the strength of Atlantic hurricanes⁶⁹ and

⁶⁶ U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE CHANGE IMPACTS IN THE UNITED STATES: THE THIRD NATIONAL CLIMATE ASSESSMENT (Jerry M. Melillo et al., eds. 2014) at 221; U.S. Global Change Research Program, Climate Science Special Report: Fourth National Climate Assessment, Vol. I (2017) at 20.

⁶⁷ *Id.* at 207, 218.

⁶⁸ U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE CHANGE IMPACTS IN THE UNITED STATES: THE THIRD NATIONAL CLIMATE ASSESSMENT (Jerry M. Melillo et al., eds. 2014) at 224.

⁶⁹ James B. Elsner et al., *The increasing intensity of the strongest tropical cyclones*, 455 NATURE 92 (2008); Mark A. Saunders & Adam S. Lea, *Large contribution of sea surface warming to recent increase in Atlantic hurricane activity*, 451 NATURE 557 (2008); G. Holland & C.L. Bruyère, *Recent intense hurricane response to global climate change*, 42 CLIMATE DYNAMICS 617 (2014); Erik Fraza & James B. Elsner, *A climatological study of the effect of sea-surface temperature on North Atlantic hurricane intensification*, 36 PHYSICAL GEOGRAPHY 395 (2015); U.S.

allowing them to intensify more quickly.⁷⁰ Warmer air also holds more moisture, causing heavier rainfall during hurricanes.⁷¹ In 2017 Hurricane Harvey dropped record amounts of rainfall topping 60 inches over southeastern Texas,⁷² unleashing catastrophic flooding that left 89 dead, displaced over 30,000 people and damaged or destroyed over 200,000 homes and businesses.⁷³ Studies estimate that global warming made Harvey's downpour 3.5 times more likely and at least 19 percent more intense.⁷⁴ In addition, rising sea levels due to climate change are causing higher storm surge—the enormous walls of water pushed onto the coast by storms. Large storm surge events of Hurricane Katrina magnitude have already doubled in

GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT, VOL. I (2017) at 257; U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018) at 74.

⁷⁰ K. Bhatia et al., *Projected response of tropical cyclone intensity and intensification in a global climate model*, 31 J. OF CLIMATE 8281 (2018).

⁷¹ Kerry Emanuel, *Assessing the present and future probability of Hurricane Harvey's rainfall 2017*, 114 PNAS 12681 (2017); David Keellings & José J. Hernández Ayala, *Extreme rainfall associated with Hurricane Maria over Puerto Rico and its connections to climate variability and change*, 46 GEOPHYSICAL RES. LETT. 2964 (2019).

⁷² NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) & NATIONAL WEATHER SERVICE, NATIONAL HURRICANE CENTER TROPICAL CYCLONE REPORT: HURRICANE HARVEY, NATIONAL HURRICANE CENTER (9 MAY 2018), https://www.nhc.noaa.gov/data/tcr/AL092017_Harvey.pdf.

⁷³ NOAA NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION (NCEI), U.S. BILLION-DOLLAR WEATHER AND CLIMATE DISASTERS (2019), <https://www.ncdc.noaa.gov/billions/>.

⁷⁴ Mark D. Risser & Michael F. Wehner, *Attributable human-induced changes in the likelihood and magnitude of the observed extreme precipitation during Hurricane Harvey*, 44 GEOPHYSICAL RES. LETT. 12,457 (2017).

response to global warming and are projected to increase in frequency by twofold to sevenfold for each degree Celsius of temperature rise.⁷⁵ The costs of climate change-fueled storms are stark. The National Oceanic and Atmospheric Administration reported that during 2017 and 2018 alone, 5 major hurricanes cost the US at least 3,269 lost lives and \$325 billion in damages.⁷⁶

33. Air pollutants—particularly ozone, particulate matter, and allergens—are projected to increase with climate change.⁷⁷ Climate-driven increases in ozone will cause more premature deaths, hospital visits, lost school days, and acute respiratory symptoms.⁷⁸ In 2020, projected climate-related increases in ground-level ozone concentrations could lead to an average of 2.8 million more occurrences of acute respiratory symptoms, 944,000 more missed school days, and

⁷⁵ Aslak Grinsted et al., *Homogeneous record of Atlantic hurricane surge threat since 1923*, 109 PNAS 19601 (2012); Aslak Grinsted et al., *Projected hurricane surge threat from rising temperatures*, 110 PNAS 5369 (2013).

⁷⁶ NOAA NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION (NCEI) U.S. BILLION-DOLLAR WEATHER AND CLIMATE DISASTERS (2019), <https://www.ncdc.noaa.gov/billions/>.

⁷⁷ U.S. Environmental Protection Agency, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule, 74 Federal Register 66496 (Dec. 15, 2009), <https://www.ucsusa.org/sites/default/files/2019-09/climate-change-and-ozone-pollution.pdf>; U.S. GLOBAL CHANGE RESEARCH PROGRAM, THE IMPACTS OF CLIMATE CHANGE ON HUMAN HEALTH IN THE UNITED STATES: A SCIENTIFIC ASSESSMENT (2016).

⁷⁸ U.S. GLOBAL CHANGE RESEARCH PROGRAM, THE IMPACTS OF CLIMATE CHANGE ON HUMAN HEALTH IN THE UNITED STATES: A SCIENTIFIC ASSESSMENT (2016).

over 5,000 more hospitalizations for respiratory-related problems.⁷⁹ The continental U.S. could pay an average of \$5.4 billion (2008\$) in health impact costs associated with climate-related increases in ozone in 2020, with California experiencing the greatest impacts estimated at \$729 million.⁸⁰

34. Risks from infectious diseases are increasing as climate change alters the geographic and seasonal distribution of tick- and mosquito-borne diseases like Lyme disease and West Nile virus.⁸¹ The risk of human exposure to Lyme disease—the most common vector-borne illness in the U.S.⁸²— is expected to increase as ticks carrying Lyme disease and other pathogens become active earlier in the season and expand northward in response to warming temperatures.⁸³ The two species of ticks capable of spreading Lyme disease have already expanded to new regions of the U.S. partly because of rising temperatures; in 2015, they were found in more than 49 percent of counties in the continental U.S., a nearly 45

⁷⁹ UNION OF CONCERNED SCIENTISTS, RISING TEMPERATURES AND YOUR HEALTH: RISING TEMPERATURES, WORSENING OZONE POLLUTION (2011).

⁸⁰ *Id.*

⁸¹ U.S. GLOBAL CHANGE RESEARCH PROGRAM, THE IMPACTS OF CLIMATE CHANGE ON HUMAN HEALTH IN THE UNITED STATES: A SCIENTIFIC ASSESSMENT (2016).

⁸² Amy M. Schwartz et al., *Surveillance for Lyme Disease — United States, 2008-2015*, 66 MMWR, Centers for Disease Control and Prevention (2017).

⁸³ U.S. GLOBAL CHANGE RESEARCH PROGRAM, THE IMPACTS OF CLIMATE CHANGE ON HUMAN HEALTH IN THE UNITED STATES: A SCIENTIFIC ASSESSMENT (2016).

percent increase since 1998.⁸⁴ Rising temperatures and changes in rainfall have also contributed to the maintenance of West Nile virus in parts of the United States,⁸⁵ and cases of West Nile disease are projected to more than double by 2050 due in part to increasing temperatures, resulting in approximately \$1 billion per year in hospitalization costs and premature deaths under a higher emissions scenario.⁸⁶

35. Numerous studies have emphasized that many lives could be saved with rapid reductions in greenhouse gas pollution.⁸⁷ The Fourth National Climate Assessment concludes that “reducing greenhouse gas emissions would benefit the

⁸⁴ Rebecca J. Eisen, *County-Scale Distribution of Ixodes scapularis and Ixodes pacificus (Acari: Ixodidae) in the Continental United States*, 53 J. OF MED. ENTOMOLOGY 349 (2016).

⁸⁵ Ryan J. Harrigan et al., *A continental risk assessment of West Nile virus under climate change*, 20 GLOBAL CHANGE BIOLOGY 2417 (2014); Shlomit Paz, *Climate change impacts on West Nile virus transmission in a global context*, 370 PHILOSOPHICAL TRANS. OF THE ROYAL SOC’Y B 20130561 (2015).

⁸⁶ U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018) at 552.

⁸⁷ Antonio Gasparrini et al., *Projections of temperature-related excess mortality under climate change scenarios*, 1 LANCET PLANET HEALTH e360 (2017); Solomon Hsiang et al., *Estimating economic damage from climate change in the United States*, 356 SCIENCE 1362 (2017); Raquel A. Silva et al., *Future global mortality from changes in air pollution attributable to climate change*, 7 NATURE CLIMATE CHANGE 647 (2017); Marshall Burke et al., *Higher temperatures increase suicide rates in the United States and Mexico*, 8 NATURE CLIMATE CHANGE 723 (2018); Drew Shindell et al., *Quantified, localized health benefits of accelerate carbon dioxide emissions reductions*, 8 NATURE CLIMATE CHANGE 723 (2018).

health of Americans in the near and long term.”⁸⁸ The Assessment projects that “by the end of this century, thousands of American lives could be saved and hundreds of billions of dollars in health-related economic benefits gained each year under a pathway of lower greenhouse gas emissions.”⁸⁹ Another recent study reported that faster reductions in carbon pollution will prevent millions of premature deaths globally. Compared with a 2°C pathway, a 1.5°C pathway is projected to result in 153 million fewer premature deaths worldwide due to reduced PM 2.5 and ozone exposure, including 130,000 fewer premature deaths in Los Angeles and 120,000 in the New York metropolitan area.⁹⁰

36. The Fourth National Climate Assessment makes clear that human-caused climate change is already leading to substantial economic losses in the U.S. and that these losses will be much more severe under higher emissions scenarios, impeding economic growth: “Without substantial and sustained global mitigation and regional adaptation efforts, climate change is expected to cause growing losses

⁸⁸ U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018) at 541.

⁸⁹ *Id.* at 541.

⁹⁰ Drew Shindell et al., *Quantified, localized health benefits of accelerated carbon dioxide emissions reductions*, 8 NATURE CLIMATE CHANGE 291 (2018) at 291 and Table S1, <https://www.nature.com/articles/s41558-018-0108-y>.

to American infrastructure and property and impede the rate of economic growth over this century.”⁹¹

37. The Fourth National Climate Assessment warns: “In the absence of more significant global mitigation efforts, climate change is projected to impose substantial damages on the U.S. economy, human health, and the environment. Under scenarios with high emissions and limited or no adaptation, annual losses in some sectors are estimated to grow to hundreds of billions of dollars by the end of the century. It is very likely that some physical and ecological impacts will be irreversible for thousands of years, while others will be permanent.”⁹²

38. According to the Fourth National Climate Assessment, the number of extreme weather events per year costing more than one billion dollars per event has increased significantly since 1980, with total costs exceeding \$1.1 trillion.⁹³ The National Oceanic and Atmospheric Administration estimated that, between 2015 and April 2018, 44 billion-dollar weather and climate disasters struck the United States, producing nearly \$400 billion in damages.⁹⁴

⁹¹ U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018) at 25.

⁹² *Id.* at 1357.

⁹³ *Id.* at 81.

⁹⁴ *Id.* at 66.

39. By the end of the century, the Fourth National Climate Assessment estimates that warming on our current trajectory would cost the U.S. economy hundreds of billions of dollars each year and up to 10 percent of U.S. gross domestic product due to damages including lost crop yields, lost labor, increased disease incidence, property loss from sea level rise, and extreme weather damage.⁹⁵ Ultimately, the magnitude of financial burdens imposed by climate change depends on how effectively we curb emissions. Across sectors and regions, significant reductions in emissions will substantially lower the costs resulting from climate change damages.⁹⁶ For example, annual damages associated with additional extreme temperature-related deaths are projected at \$140 billion (in 2015 dollars) under the higher RCP 8.5 emissions scenario compared with \$60 billion under the lower RCP 4.5 scenario by 2090.⁹⁷ Annual damages to labor would be approximately \$155 billion under RCP 8.5, but reduced by 48 percent under RCP 4.5.⁹⁸ While coastal property damage would carry an annual cost of \$118 billion under RCP 8.5 in 2090, 22 percent of this cost would be avoided under RCP 4.5.⁹⁹

40. Anthropogenic climate change is also causing widespread harm to life across the planet. Climate change is already impacting 82 percent of key ecological

⁹⁵ *Id.* at 1358, 1360.

⁹⁶ *Id.* at 1349.

⁹⁷ *Id.* at 552.

⁹⁸ *Id.* at 1349.

⁹⁹ *Ibid.*

processes that underpin ecosystem function and support basic human needs.¹⁰⁰

Climate change-related local extinctions are already widespread and have occurred in hundreds of species, including almost half of the 976 species surveyed.¹⁰¹ Nearly half of terrestrial non-flying threatened mammals and nearly one-quarter of threatened birds may have already been negatively impacted by climate change in at least part of their range.¹⁰² Furthermore, across the globe, populations of terrestrial birds and mammals that are experiencing greater rates of climate warming are more likely to be declining at a faster rate.¹⁰³ Genes are changing, species' physiology and physical features such as body size are changing, species are moving to try to keep pace with suitable climate space, species are shifting their timing of breeding and migration, and entire ecosystems are under stress.¹⁰⁴

¹⁰⁰ Brett R. Scheffers et al., *The broad footprint of climate change from genes to biomes to people*, 354 SCIENCE 719 (2016).

¹⁰¹ John J. Wiens, *Climate-related local extinctions are already widespread among plant and animal species*, 14 PLOS BIOLOGY e2001104 (2016) at 1.

¹⁰² Michela Pacifici et al., *Species' traits influenced their response to recent climate change*, 7 NATURE CLIMATE CHANGE 205 (2017) at 205. The study concluded that "populations of large numbers of threatened species are likely to be already affected by climate change, and ... conservation managers, planners and policy makers must take this into account in efforts to safeguard the future of biodiversity." *Id.* at 205.

¹⁰³ Fiona E.B. Spooner et al., *Rapid warming is associated with population decline among terrestrial birds and mammals globally*, 24 GLOBAL CHANGE BIOLOGY 4521 (2018).

¹⁰⁴ Camille Parmesan & Gary Yohe, *A globally coherent fingerprint of climate change impacts across natural systems*, 421 NATURE 37 (2003); Terry L. Root et al., *Fingerprints of global warming on wild animals and plants*, 421 NATURE 57 (2003); Camille Parmesan, *Ecological and evolutionary responses to recent*

41. Because climate change is occurring at an unprecedented pace with multiple synergistic impacts, human-caused climate change is increasing the extinction risk for many species. Numerous studies have projected catastrophic species losses during this century if climate change continues unabated: 15 to 37 percent of the world's plants and animals committed to extinction by 2050 under a mid-level emissions scenario;¹⁰⁵ the potential extinction of 10 to 14 percent of species by 2100;¹⁰⁶ global extinction of five percent of species with 2°C of warming and 16 percent of species with business-as-usual warming;¹⁰⁷ and the loss of a third or more of animals and plant species in the next 50 years.¹⁰⁸ A comprehensive 2019 United Nations report came to the shocking conclusion that

climate change, 37 ANN. REV. OF ECOLOGY EVOLUTION AND SYSTEMATICS 637 (2006); I-Ching Chen et al., *Rapid range shifts of species associated with high levels of climate warming*, 333 SCIENCE 1024 (2011); Ilya M. D. Maclean & Robert J. Wilson, *Recent ecological responses to climate change support predictions of high extinction risk*, 108 PNAS 12337 (2011); Rachel Warren et al., *Increasing impacts of climate change upon ecosystems with increasing global mean temperature rise*, 106 CLIMATIC CHANGE 141 (2011); Abigail E. Cahill et al., *How does climate change cause extinction?*, 280 PROC. OF THE ROYAL SOCIETY B 20121890 (2012).

¹⁰⁵ Chris. D. Thomas et al., *Extinction risk from climate change*, 427 NATURE 145 (2004).

¹⁰⁶ Ilya M. D. Maclean & Robert J. Wilson, *Recent ecological responses to climate change support predictions of high extinction risk*, 108 PNAS 12337 (2011).

¹⁰⁷ Mark C. Urban, *Accelerating extinction risk from climate change*, 348 SCIENCE 571 (2015).

¹⁰⁸ Cristian Román-Palacios & J.J. Wiens, *Recent responses to climate change reveal the drivers of species extinction and survival*, 117 PNAS 8 (2020) .

one million animal and plant species are now threatened with extinction, with climate change as a major contributing factor.¹⁰⁹

42. The Third National Climate Assessment warned that “landscapes and seascapes are changing rapidly, and species, including many iconic species, may disappear from regions where they have been prevalent or become extinct, altering some regions so much that their mix of plant and animal life will become almost unrecognizable.”¹¹⁰

43. California is particularly vulnerable to harms of the climate crisis, identified as “one of the most ‘climate-challenged’ regions of North America.”¹¹¹ The state is already experiencing rising temperatures, declining snowpack, more heavy precipitation events, intensifying drought, and rising seas.¹¹² Climate change has contributed to a series of some of the most extreme events in California’s recorded history: a severe drought from 2012-2016, an almost non-existent Sierra

¹⁰⁹ INTERGOVERNMENTAL SCIENCE-POLICY PLATFORM ON BIODIVERSITY AND ECOSYSTEM SERVICES (IPBES), GLOBAL ASSESSMENT REPORT (MAY 6, 2019), <https://ipbes.net/news/Media-Release-Global-Assessment>.

¹¹⁰ U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE CHANGE IMPACTS IN THE UNITED STATES: THE THIRD NATIONAL CLIMATE ASSESSMENT (Jerry M. Melillo et al., eds. 2014) at 196.

¹¹¹ L. BEDSWORTH ET AL., STATEWIDE SUMMARY REPORT, CALIFORNIA’S FOURTH CLIMATE CHANGE ASSESSMENT, CALIFORNIA GOVERNOR’S OFFICE OF PLANNING AND RESEARCH, SCRIPPS INSTITUTION OF OCEANOGRAPHY, CALIFORNIA ENERGY COMMISSION, CALIFORNIA PUBLIC UTILITIES COMMISSION (2018) at 13.

¹¹² CALIFORNIA NATURAL RESOURCES AGENCY, CALIFORNIA’S CHANGING CLIMATE 2018, Thorne, J. et al., eds. 2018) at 4, <http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf>.

Nevada winter snowpack in 2014-2015, increased destruction of communities by wildfires, and back-to-back years of the warmest average temperatures.¹¹³

44. Average annual temperatures have increased in California by about 2°F since the early 20th century¹¹⁴ and are projected to rise by 8.8°F by 2100 if emissions continue at current rates.¹¹⁵ Heat waves—which are responsible for the most deaths in California over the past 30 years¹¹⁶—are becoming more frequent both on land and in the ocean.¹¹⁷ Precipitation is becoming more variable, and heavy downpours—with their associated flooding—are projected to become more frequent, especially due to an increase in atmospheric rivers.¹¹⁸ Mountain snowpack is declining, and by 2050 the average water supply from snowpack is projected to decline to two-thirds of historical levels.¹¹⁹ Rising temperatures and loss of snowpack are intensifying drought conditions which threaten water supplies

¹¹³ *Id.* at 3.

¹¹⁴ NOAA NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION, 2017: CALIFORNIA STATE CLIMATE SUMMARY (Frankson, R., L. et al. eds. 2017), <https://statesummaries.ncics.org/ca>.

¹¹⁵ CALIFORNIA NATURAL RESOURCES AGENCY, CALIFORNIA'S CHANGING CLIMATE 2018 (Thorne, J. et al. eds.2018) at 5, <http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf>.

¹¹⁶ *Id.* at 7.

¹¹⁷ *Id.* at 3,15.

¹¹⁸ CALIFORNIA NATURAL RESOURCES AGENCY, CALIFORNIA'S CHANGING CLIMATE 2018 (Thorne, J. et al. eds.2018) at 24, 25.

¹¹⁹ *Id.* at 5.

and agriculture.¹²⁰ Warmer and drier conditions are contributing to an increase in the acreage burned by wildfires and a longer fire season, with a 77 percent increase in mean area burned by 2100 projected under the current emissions rate.¹²¹ Sea level has risen by an average of 9 inches off the southern and central California coasts, and is projected to rise by 54 inches by 2100 if emissions continue at current rates,¹²² which would erode beaches, flood major seaports and airports, and cause devastating coastal property damage.¹²³ By mid-century, direct costs from human mortality, damages to coastal properties, and intensified droughts and damaging floods will reach an estimated tens of billions of dollars.¹²⁴

¹²⁰ P. Gonzalez et al., *Chapter 25: Southwest*, in U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES: FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (Reidmiller, D.R. et al. eds. 2018) at 1103, 1104, 1107, <https://nca2018.globalchange.gov/chapter/25/>.

¹²¹ L. BEDSWORTH ET AL., CALIFORNIA GOVERNOR'S OFFICE OF PLANNING AND RESEARCH, SCRIPPS INSTITUTION OF OCEANOGRAPHY, CALIFORNIA ENERGY COMMISSION, CALIFORNIA PUBLIC UTILITIES COMMISSION, STATEWIDE SUMMARY REPORT, CALIFORNIA'S FOURTH CLIMATE CHANGE ASSESSMENT (2018) at 9, 30.

¹²² P. Gonzalez et al., *Chapter 25: Southwest*, in U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES: FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (Reidmiller, D.R. et al. eds. 2018) at 1118, <https://nca2018.globalchange.gov/chapter/25/>; L. BEDSWORTH ET AL., CALIFORNIA GOVERNOR'S OFFICE OF PLANNING AND RESEARCH, SCRIPPS INSTITUTION OF OCEANOGRAPHY, CALIFORNIA ENERGY COMMISSION, CALIFORNIA PUBLIC UTILITIES COMMISSION, STATEWIDE SUMMARY REPORT, CALIFORNIA'S FOURTH CLIMATE CHANGE ASSESSMENT (2018) at 70.

¹²³ CALIFORNIA NATURAL RESOURCES AGENCY, CALIFORNIA'S CHANGING CLIMATE 2018 (Thorne, J. et al., eds. 2018) at 10, 15.

¹²⁴ *Id.* at 9.

The choices we make today on reducing greenhouse gas pollution determine the severity of the climate change damages that we will suffer in the coming decades and centuries.

45. Importantly, the harms of climate change are long-lived, and the choices we make now on reducing greenhouse gas pollution will affect the severity of the climate change damages that will be suffered in the coming decades and centuries: “[t]he impacts of global climate change are already being felt in the United States and are projected to intensify in the future—but the severity of future impacts will depend largely on actions taken to reduce greenhouse gas emissions.”¹²⁵ As the Fourth National Climate Assessment explains: “[m]any climate change impacts and associated economic damages in the United States can be substantially reduced over the course of the 21st century through global-scale reductions in greenhouse gas emissions.”¹²⁶ Without urgent climate action, “[i]t is very likely that some physical and ecological impacts will be irreversible for thousands of years, while others will be permanent.”¹²⁷ As highlighted by the National Research Council: “[E]mission reduction choices made today matter in

¹²⁵ U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018) at 34.

¹²⁶ U.S. GLOBAL CHANGE RESEARCH PROGRAM, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018) at 1347.

¹²⁷ *Id.* at 1357.

determining impacts experienced not just over the next few decades, but in the coming centuries and millennia.”¹²⁸

46. Continued warming increases the likelihood that the climate system will cross tipping points—large-scale shifts in the climate system—that could result in climate states wholly outside human experience and result in severe physical and socioeconomic impacts.¹²⁹ The IPCC Fifth Assessment Report similarly warned that “with increasing warming, some physical and ecological systems are at risk of abrupt and/or irreversible changes” and that the risk “increases as the magnitude of the warming increases.”¹³⁰

47. Evidence that the climate system is already close to crossing critical tipping points highlights the urgency of implementing emissions cuts.¹³¹ For example, research indicates that a critical tipping point important to the stability of the West Antarctic Ice Sheet has been crossed. According to the Fourth National Climate Assessment, “observational evidence suggests that ice dynamics already in progress have committed the planet to as much as 3.9 feet (1.2 m) worth of sea

¹²⁸ NATIONAL RESEARCH COUNCIL, CLIMATE STABILIZATION TARGETS: EMISSIONS, CONCENTRATIONS, AND IMPACTS OVER DECADES TO MILLENNIA (2011) at 3.

¹²⁹ U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT, VOL. I (2017) at 411.

¹³⁰ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014: SYNTHESIS REPORT. CONTRIBUTION OF WORKING GROUPS I, II AND III TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2014) at 72-73.

¹³¹ *Id.* at 73-74.

level rise from the West Antarctic Ice Sheet alone” and that “under the higher RCP8.5 scenario, Antarctic ice could contribute 3.3 feet (1 m) or more to global mean sea level over the remainder of this century, with some authors arguing that rates of change could be even faster.”¹³² A recent analysis suggests the Earth System is at risk of crossing a planetary threshold that could lock in a rapid pathway toward much hotter conditions (“Hothouse Earth”) propelled by self-reinforcing feedbacks. This threshold could be crossed at 2°C temperature rise, and the risk will increase significantly with additional warming.¹³³ A prominent 2019 review of the risks from tipping points concluded that “the evidence from tipping points alone suggests that we are in a state of planetary emergency: both the risk and urgency of the situation are acute.”¹³⁴ The time for bold climate action is now.

48. In sum, the Trump administration’s SAFE Rule both rolling back California’s waiver authority and national vehicle emissions standards would result in substantial greenhouse gas and criteria pollutant emissions. The evidence is clear that the world faces a climate emergency and we cannot afford the emissions that would result from this rollback. As the science demonstrates, rather than

¹³² U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT, VOL. I (2017) at 420.

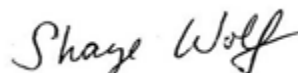
¹³³ Will Steffen et al., *Trajectories of the Earth System in the Anthropocene*, 115 PNAS 33 (2018).

¹³⁴ Timothy M. Lenton et al., *Climate tipping points—too risky to bet against*, 575 NATURE 592 (2019) at 2019) at 595.

rolling back existing standards and requirements, the U.S. government must rapidly decarbonize the transportation sector by promulgating vehicle emissions standards that significantly and steadily reduce greenhouse gas emissions from passenger cars and light-duty trucks and by requiring the prompt, widespread adoption of zero emission vehicles to avoid the worst consequences of the climate crisis.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on June 9, 2020 at Kensington, California.



Shaye Wolf

DECLARATION OF ROBERT AKE

I, Robert Ake, declare as follows:

1. I am over the age of 18, competent to testify, and have personal knowledge of the following facts.
2. I live at 6603 Catherine Street in Norfolk, Virginia on an alcove off the Lafayette River. I have lived here for over 23 years. I have lived in Virginia for over fifty years, and in my free time I enjoy birding. I lead bird tours and trips and conduct surveys for the Fish and Wildlife Service in the Hampton Roads area, including in Back Bay National Wildlife Refuge.
3. I am a member of the Chesapeake Bay Foundation. I have been a member since 2006. I am aware of CBF's mission to "Save the Bay" and I support this mission. The Chesapeake Bay Foundation works to restore water quality and habitat, which I support because of my interest in birds and fish that live in the Bay and its watershed. I have participated in CBF's oyster gardening program by growing oysters off my dock.
4. I have lived in my home for 23 years and have seen first-hand what happens when large storms like hurricanes and northeasters hit my community. These storms can bring high winds, storm surges, and rains, which have resulted in my yard being flooded on multiple occasions, and one storm that brought water

levels all the way up to our home's foundation. We were forced to raise our furniture off the floor to prepare for possible flooding.

5. I understand that climate change is making these sorts of storms increasingly likely and I have significant concerns about damage to my home and property value.

6. Flooding has also become a regular occurrence in my community and affects routine activities. Flooding is something I always have to take into account now as I travel in and around the Hampton Roads area. Hampton Boulevard, much of downtown Norfolk, and one of the roads I frequently use are particularly susceptible to this flooding. There are times when I have to take alternate routes due to flooded roads, and times when I must abandon my travel altogether.

7. In addition to impacts to my personal property and community, sea level rise has had a significant impact on my ability to observe birds and conduct surveys for Fish and Wildlife Service—two activities I value and enjoy.

8. There is a small saltwater marsh adjacent to my property that provides important habitat for birds, including Clapper Rails and Marsh Wrens. The marsh provides breeding habitat for these birds, as well as a food source. Unfortunately, in the 23 years I have lived here, the marsh has been reduced to almost half its size due to rising water levels. The rising water levels inundate the marsh, killing the

grasses and eventually destroying the habitat. I expect that the marsh will be completely gone in the next 15 years or so.

9. This issue is not unique to my property. I have seen these same impacts to saltwater marshes occurring all along Virginia's coast. For example, I have observed and understand that marsh habitat is being destroyed in Chincoteague due to sea level rise, posing significant threats to a large Laughing Gull population.

10. I also perform bird surveys for the Fish and Wildlife Service in the Back Bay National Wildlife Refuge, the Eastern Shore of Virginia National Wildlife Refuge, and other marsh habitats on Virginia's Eastern Shore. I have done this work for over 40 years. During the course of this work, I have observed and understand that rising sea levels are reducing the quality and quantity of saltwater marshes in these locations. For example, Black Rails are a species of bird that require this type of tidal marsh habitat and they have virtually disappeared from Virginia due to the loss of tidal marsh habitat.

11. As sea levels continue to rise, the quality and quantity of marshes all along Virginia's coast will continue to decline, further threatening the feeding and breeding habitat for these birds and many others. Eventually, many of the marshes will simply disappear, as will the wildlife populations that depend on them. These

losses will interfere with or entirely prevent me from engaging in the birding activities I value and enjoy.

12. I understand that impacts from sea level rise are directly tied to greenhouse gas emissions, including tailpipe exhaust from motor vehicles.

13. I understand that EPA has issued the SAFE Part One Rule, which removes the ability of states to adopt greenhouse gas emissions and zero emission vehicle standards for passenger cars and trucks. I understand that EPA and NHTSA have also issued the SAFE Part Two Rule, which weakens fuel economy standards and greenhouse gas emission standards for passenger cars and trucks.

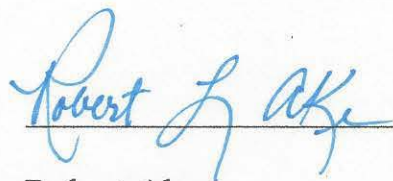
14. The SAFE Rules, individually and collectively, allow an increase in emissions of carbon dioxide and other greenhouse gases from tailpipes. I know that emissions of carbon dioxide and other greenhouse gases contribute to climate change, which leads to sea level rise and increased storms that harm my interests.

15. I am aware that the Chesapeake Bay Foundation has filed petitions with the D.C. Circuit challenging the SAFE Rules. I support CBF's challenges because I am experiencing harm from climate change, and the Agencies' actions directly contribute to this harm by preventing states from reducing climate-harming greenhouse gas emissions from cars and trucks and by weakening the federal standards for greenhouse gas emissions from tailpipes. Decisions from the

Court that strike down the SAFE Rules and revive existing programs and standards aimed at reducing greenhouse gas pollution from cars would alleviate my harm.

I declare under penalty of perjury and based on personal knowledge that the foregoing is true and correct to the best of my knowledge and belief.

Executed on the 27 day of May 2020.



Robert Ake

DECLARATION OF WILLIAM C. BAKER

I, William C. Baker, declare as follows:

1. I am over 18 years of age, competent to testify, and based on personal knowledge, information, and belief, I have knowledge of the facts stated herein.

2. I am President of the Chesapeake Bay Foundation, Inc. (“CBF”), which is located at 6 Herndon Ave., Annapolis, Maryland 21403. I was Executive Director of CBF from 1982 until 1984, when my title changed to President. I have held that position since 1984. Because of my position and responsibilities, I am familiar with CBF’s mission, organization, and activities, and with the environmental interests and concerns of CBF's members and board of trustees. I am also familiar with the demographics of CBF’s membership and board of trustees.

3. CBF is a regional, nonprofit, nonpartisan, public-interest advocacy organization with members throughout the Chesapeake Bay region. As of July 2019, CBF has over 300,000 members and electronic subscribers nationwide, including 109,137 members in Maryland; 6,368 members and electronic subscribers in Delaware; 6,094 members and electronic subscribers in the District of Columbia; 91,425 members and electronic subscribers in Virginia; 47,070 members and electronic subscribers in Pennsylvania; 18,102 members and electronic subscribers in New York; and 1,604 members and electronic subscribers in West Virginia.

4. CBF maintains offices in Annapolis and Easton, MD; Richmond and Virginia Beach, VA; Harrisburg, PA; and Washington, DC. CBF operates several environmental education centers on the Chesapeake Bay and maintains oyster restoration operations in Shady Side, MD and Gloucester Point, VA.

5. CBF’s mission is to “Save the Bay” and keep it saved, as defined by reaching a 70

on CBF's Health Index. *See* CBF, 2018 State of the Bay Report, <https://www.cbf.org/about-the-bay/state-of-the-bay-report/>. For over 50 years, CBF has worked to restore and protect the Chesapeake Bay through education, advocacy, restoration, and litigation. CBF uses its various resources to achieve its mission. However, climate change has adversely affected CBF's ability to do so and is worsened by continued increases in air pollution.

6. The Chesapeake Bay faces persistent water quality challenges due to nitrogen, phosphorus, and sediment pollution. Excessive nitrogen and phosphorus lead to an overabundance of algae which blocks sunlight from reaching underwater grasses that serve as food and habitat. As the algae decay, they rob the Bay of oxygen, leading to hypoxic or anoxic dead zones—water with little to no oxygen where it is impossible for oxygen-dependent creatures to survive.

7. Climate change, fueled by greenhouse gas emissions, exacerbates the Bay's water quality problems by increasing water temperatures, which decreases dissolved oxygen levels; increasing the frequency and strength of precipitation events and associated runoff pollution; changing salinity regimes; and causing the loss of wetlands and marshes, which provide valuable habitat and water-filtering services throughout the watershed, due to sea level rise. *See* CBF, "Climate Change", <https://www.cbf.org/issues/climate-change/>.

8. CBF is the largest independent organization dedicated solely to restoring and protecting the Chesapeake Bay and its tributary rivers. Our goal is to improve water quality through the implementation of the Chesapeake Bay Clean Water Blueprint. The "Blueprint" refers to the Chesapeake Bay Total Maximum Daily Load (TMDL), issued by the United States Environmental Protection Agency (EPA) in December 2010, and state-developed Watershed Implementation Plans (WIPs) which outline Bay jurisdictions' strategies to meet the pollution

reduction targets of the Bay TMDL. The Bay jurisdictions are Maryland, Pennsylvania, Virginia, Delaware, West Virginia, New York, and the District of Columbia.

9. The Bay Blueprint set the pollution reduction targets for the Bay's three primary pollutants (nitrogen, phosphorus, and sediment) at levels necessary to meet water quality standards for dissolved oxygen and water clarity in the Bay. U.S. EPA, Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus, and Sediment (Dec. 2010), <https://www.epa.gov/chesapeake-bay-tmdl/chesapeake-bay-tmdl-document>. The Bay TMDL is designed to ensure that "by 2025 all practices necessary to fully restore the Bay and its tidal waters are in place." *Id.* at ES-6.

10. CBF and a coalition of groups and individuals sued EPA to ensure development and implementation of the Bay TMDL. *Fowler v. EPA*, No. 1:09-C-00005-CKK, 2009 U.S. Dist. LEXIS 132084 (D.D.C. 2009). This matter resulted in a settlement agreement requiring EPA to, among other things, issue the Chesapeake Bay TMDL by December 31, 2010.

11. I am aware that EPA and the National Highway Traffic Safety Administration (NHTSA) recently finalized rules that weaken efforts to reduce air pollution from cars and trucks. In the first action, EPA withdrew California's authority to establish greenhouse gas and zero-emission vehicle (ZEV) standards for passenger cars and trucks and removed other states' ability to adopt those standards. Five of the seven watershed jurisdictions have adopted elements of the California standards in their efforts to fight climate change, reduce air pollution, and clean up the Bay.¹ In the second action, EPA and NHTSA weakened the federal greenhouse gas emissions and fuel economy standards, respectively, for passenger cars and trucks.

¹ See Maryland Department of the Environment, "States Adopting California's Clean Cars Standards", <https://mde.maryland.gov/programs/air/mobilesources/pages/states.aspx> (including Maryland, Delaware, New York, Pennsylvania, and Washington, D.C.).

12. I understand that, collectively, the rules will lead to an increase in greenhouse gas emissions from vehicles, further exacerbating the impacts of climate change, as well as an increase in nitrogen oxides and other harmful air pollutants from increased fuel consumption. This increased air pollution will negatively impact the health of the Chesapeake Bay and CBF's members.

Air Pollution and Chesapeake Bay Health

13. CBF's interest in improving the water quality of the Chesapeake Bay is intertwined with regional air quality issues. The Chesapeake Bay airshed is 570,000 square miles, stretching from Canada in the north, to South Carolina in the south, and to Indiana and Kentucky in the west. The airshed is more than nine times the area of the Bay's watershed. *See* Chesapeake Bay TMDL, Appendix L: Setting the Chesapeake Bay Atmospheric Nitrogen Deposition Allocations, at L-4 (Dec. 29, 2010), https://www.epa.gov/sites/production/files/2015-02/documents/appendix_l_atmos_n_deposition_allocations_final.pdf.

14. When the Bay TMDL was established in 2010, EPA identified the atmospheric deposition of nitrogen as contributing approximately one-third of the entire nitrogen input to the Bay watershed via deposition onto tidal surface waters and the surrounding Bay watershed. *See id.* at L-2. Atmospheric loads of nitrogen come from the emission of nitrogen oxides and ammonia (NH₃). Primary sources of nitrogen oxides are industrial-sized boilers and internal combustion engines in cars, trucks, and other vehicles. *Id.* at L-1.

15. As EPA updated the modeling associated with the TMDL, the Agency relied in part on the implementation of federal and state vehicle emissions programs to achieve necessary reductions in atmospheric nitrogen in order to meet the requirements of the Chesapeake Bay TMDL. *See* U.S. EPA, Midpoint Assessment of the Chesapeake Bay Total Maximum Daily

Load at 4, <https://www.epa.gov/sites/production/files/2018-07/documents/factsheet-epa-midpoint-assessment-chesapeake-bay-tmdl.pdf> (“EPA and the jurisdictions will need to continue implementing Clean Air Act regulations for both stationary and mobile source pollution to ensure that the air deposition reduction goals will be achieved.”).

16. Climate change poses a significant threat to water quality and to achieving the goals of the Chesapeake Bay Blueprint. *See* U.S. EPA Chesapeake Bay Program, “Climate Change”, https://www.chesapeakebay.net/issues/climate_change. Among other impacts, warmer water holds less oxygen, meaning that as temperatures continue to rise, dissolved oxygen in the Bay will decrease, worsening dead zones; stronger storms with more rainfall will lead to more polluted runoff entering the tributaries of the Bay; and climate change-induced sea level rise destroys marshes and wetlands necessary for filtering polluted runoff and for providing critical habitat to watershed species. Climate change and its impacts are fueled by increases in greenhouse gas emissions.

17. CBF has expended significant resources and time investigating regional air pollution to better understand and communicate how air pollution, especially greenhouse gases and nitrogen oxides, affects the Chesapeake Bay. These activities require a substantial amount of policy, advocacy, and scientific staff time. CBF recognizes the importance of participating in public comment and hearing processes related to federal and state air pollution regulation and regularly contributes its unique expertise and regional interests to such proceedings. CBF also devotes resources to educating the public, including members, about the impact of air pollution and climate change on water quality in the Bay watershed.

Impact to CBF Members

18. CBF members engage in a wide array of activities around the Bay watershed

including fishing, crabbing, boating, swimming, hiking, bird watching, and oyster-gardening (growing oysters in baskets attached to a dock: <https://www.cbf.org/how-we-save-the-bay/programs-initiatives/frequently-asked-questions-about-oyster-gardening.html>). In this way, CBF members rely on a healthy Bay watershed for economic, recreational, and aesthetic interests.

19. Many CBF members live, work, recreate, and/or own property in areas throughout the watershed that are impacted by sea level rise, including sunny day flooding and increased storm events.

20. Numerous CBF members live near high traffic areas, interstate highway corridors traversing the Bay region, and in cities and areas that suffer from increasing days of extreme heat.² Many CBF members also live in Bay watershed areas impacted by harmful ground-level ozone pollution, including all or part of three areas currently not attaining federal air quality standards for ozone: Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE (Marginal Nonattainment); Washington, DC-MD-VA (Marginal Nonattainment); Baltimore, MD (Marginal Nonattainment). EPA, Greenbook: “8-Hour Ozone (2015) Designated Area/State Information” (current as of May 31, 2020), <https://www3.epa.gov/airquality/greenbook/jbtc.html>. I understand that climate change contributes to an increase in heat-related formation of ground-level ozone pollution.

21. Increases in greenhouse gases, nitrogen oxides, and other pollutants contribute to air pollution and climate change impacts suffered by communities in the Bay region, especially vulnerable communities who are already disproportionately impacted by pollution. These

² See U.S. Global Change Research Program, Fourth National Climate Assessment, Chapter 18: Northeast (2018), available at <https://nca2018.globalchange.gov/chapter/18/>.

impacts harm CBF members' health, livelihoods, and interests in the Bay watershed.

Impact to CBF Restoration Work

22. CBF operates a watershed-wide restoration department. CBF's restoration programs within the Chesapeake Bay watershed are designed to improve water quality, in many cases by taking up nitrogen in the air and water. Those restoration efforts include planting vegetative buffers along rivers and streams, planting trees, and growing and planting oysters and underwater grasses. During fiscal year 2019, CBF spent over \$3.1 million on restoration programs in the Chesapeake Bay region.

23. CBF's restoration department engages in numerous oyster restoration projects designed to revive the Chesapeake Bay's native oyster population after decades of decline due to pollution, overharvesting, and disease. Current estimates place the Bay's native oyster population at a fraction of historic levels. By restoring the Bay's oyster population, CBF aims to harness oysters' filtering ability to improve both water quality and clarity in the Bay. But climate change poses a serious threat to oyster populations in the Bay, including both restoration efforts and commercial fishing and aquaculture operations.

24. CBF's oyster restoration projects include oyster plantings, population and habitat monitoring, project maintenance, and public education (including the oyster gardening program). The primary restoration activity is planting juvenile oysters (or "spat") to build and enhance oyster reefs throughout the Bay. In 2019, CBF planted 6 million oysters in the Little Choptank River, 2 million at Fort Carroll on the Patapsco River, and 250 spat-covered reef balls in the South River. Additionally, CBF launched its Making History Campaign in 2018. As a part of the Campaign, CBF set a goal to achieve 10 billion more oysters in the Chesapeake Bay by 2025; and to restore and protect oyster populations in ten Chesapeake Bay watershed tributaries in

accordance with the goals of the Chesapeake Bay Watershed Agreement. *See* U.S. EPA Chesapeake Bay Program, “Chesapeake Bay Watershed Agreement”, https://www.chesapeakebay.net/what/what_guides_us/watershed_agreement.

25. Funding for these projects comes from a variety of sources including, but not limited to: National Oceanic and Atmospheric Administration (NOAA) grants; Abell Foundation grants; financial support from outside organizations such as Arundel Rivers Federation; and CBF’s Making History Campaign. Climate change is damaging CBF’s ability to meet grant deliverables.

26. Sea level rise and intense precipitation events are threatening the success and straining the resources of CBF’s oyster restoration program. In 2019, high precipitation caused large segments of the Bay to become less saline, CBF’s program suffered severe setbacks in larval oyster availability and survival. These setbacks caused CBF to default on grant program project deliverables and prevented CBF from assisting smaller Bay watershed groups with their own oyster restoration projects.

27. Sea level rise poses a serious threat to CBF’s Maryland Oyster Restoration Center in Shadyside, Maryland. Due to rapid sea level rise, CBF is searching for an alternative site to move its terrestrial oyster growing operations sometime in the next three years. Replacement sites suitable for such work are costly—one prospective property would cost CBF at least two million dollars to purchase and renovate. Additional greenhouse gases will contribute to continued sea level rise and intense precipitation events, which will continue to threaten the viability of CBF’s oyster restoration programs and its ability to support the programmatic goals of the Chesapeake Bay Watershed Agreement and the Bay Blueprint.

28. In addition to oyster restoration projects, CBF conducts agricultural restoration

projects throughout the watershed to protect and restore water quality. A key component of CBF's agricultural restoration projects is planting streamside buffers and stream restoration. The goal of these projects is to reduce the nutrient and sediment load entering Chesapeake Bay tributaries. Planting native grasses, shrubs, and trees along streams stabilizes the stream banks, filters pollutants from agricultural runoff, provides wildlife habitat for aquatic and terrestrial wildlife, sequesters carbon dioxide, and provides cooling shade for the water.

29. In Pennsylvania, tree plantings serve both CBF agricultural restoration goals as well as the Keystone 10 Million Tree Partnership, which is a CBF-led campaign to plant ten million trees in Pennsylvania—many in the Bay watershed—by 2025. Unfortunately, extreme weather events and unpredictable precipitation patterns threaten to derail these efforts. During 2018, the Bay watershed experienced a heavy rainfall season, with numerous storms producing multiple inches of precipitation at a time. These events led to flooding, which washed out numerous tree-planting projects and sent trees and planting materials downstream. In some cases, entire projects were decimated. Even for those projects that were not completely destroyed, they were ultimately ineffective because these projects require a threshold number of planted trees in order for the project to provide its intended ecological services. As a result, CBF had to replant numerous riparian buffers, which costs roughly \$8 per tree for hundreds of trees per acre on often multi-acre projects.

30. Conversely, due to a dry summer in 2019, CBF's inventory of unplanted tree seedlings dried out faster than they could be watered, and as a result, could not be successfully planted. This weather also dries out potential planting ground, making it difficult for staff and volunteers to dig holes appropriate for planting. Without viable seedlings and arable land, seedlings cannot be planted in a timely fashion and will ultimately be unlikely to survive the

winter. Frequent and intense weather events, be they droughts or severe rainstorms, harm CBF's ability to meet its goals in an effective and economically efficient manner. Increased greenhouse gas emissions will contribute to these chaotic weather patterns, threatening the viability of CBF's agricultural restoration programs and its ability to support the programmatic goals of the Chesapeake Bay Watershed Agreement and the Bay Blueprint.

Impact to CBF Education Programs

31. The CBF Education Department operates three main programs: Student Field Programs, Teacher Professional Learning, and Student Leadership Programs.

32. The Field Programs represent the lion's share of the department's work. CBF currently operates sixteen different programs throughout the watershed. *See* CBF, "Field Programs", <https://www.cbf.org/join-us/education-program/field-programs/>. CBF operates five Boat Investigation Programs—Baltimore Harbor (Baltimore and Havre de Grace, MD); Hampton Roads (Hampton Roads, VA); James River (Hopewell, VA); Potomac River (Washington, DC); and Arthur Sherwood (Annapolis, MD)—utilizing scientific data collection and traditional watermen's fishing techniques to allow students to discover the health of their local rivers. CBF operates two Green Building Investigation Programs out of the Brock Environmental Center in Virginia Beach and the Phillip Merrill Environmental Center in Annapolis. CBF runs four canoe programs: the Susquehanna Watershed Environmental Education Program in Pennsylvania; the Elizabeth Reed Carter Environmental Education Program in tidal rivers of Virginia; the Virginia Watershed Environmental Education Center in non-tidal rivers of Virginia; and the Maryland Rivers and Streams Environmental Education Program. CBF operates a program of one-day field experiences throughout the Susquehanna River watershed via the Pennsylvania Student Action and Restoration Program. Lastly, CBF

operates four multi-day education programs out of the Karen Noonan Center (Dorchester County, MD); Smith Island (Tylerton, MD); and Port Isobel (Tangier, VA) (Port Isobel EAST and Port Isobel WEST).

33. The CBF Education Department educates over 34,000 students and teachers per year, measured in participant days. CBF's Education Department subsidizes much of the cost of these programs for schools and students.

34. Heavy rainfall and increased water pollution negatively impact field programs and the experiences available to students. After significant rainfall, CBF educators will avoid water contact on programs run in areas that are prone to contamination as a result of surface runoff that carries human and animal fecal waste, pesticides, fertilizers, oil, and various other contaminants. As a result, students would either have to wear gloves and goggles to do water sampling and bottom dredging, or these activities would be skipped due to concerns over water quality and student safety.

35. CBF's canoe programs are impeded during heavy rain events and seasons, as well as periods of long drought and low water levels. These scenarios make navigation both difficult and dangerous. Heavy rains cause high waters and large amounts of debris in the water. Droughts lower water levels so boats cannot travel on certain waters. Erratic precipitation patterns often prevent CBF's canoe programs from operating for weeks at a time.

36. CBF's outdoor education programs are also impacted by extreme heat events such as those experienced in July 2019. The heat alone is dangerous to participants, but it also exacerbates air quality issues, which further endanger student and adult participants in CBF's Teacher Professional Learning and Student Leadership Courses.

37. In recent years, CBF education courses and programming have been cancelled

due to extreme weather; cancellations lead to loss of revenue from programming. Increases in severe weather—such as hurricanes and high winds, extreme summer heat, and heavy rainstorms and high waters—will increase the risk of program cancellations, create more safety risks, and threaten CBF’s capital investments in education centers and boats.

38. Increased greenhouse gas emissions will contribute to climate change and exacerbate the weather patterns that disrupt numerous aspects of CBF’s education programming and resources.

Impact to CBF Property

39. Climate change and its attendant sea level rise threatens to inundate significant portions of the 11,000-mile Chesapeake Bay shoreline—including Chesapeake Bay Foundation property. While the threat of sea level rise is imminent worldwide, the Chesapeake Bay faces additional, unique challenges due to regional land subsidence—exacerbating the deleterious effect of sea level rise. *See* Chesapeake Bay Foundation Report: *Climate Change and the Chesapeake Bay: Challenges, Impacts, and the Multiple Benefits of Agricultural Conservation Work*, at 2 (2007), <https://www.cbf.org/document-library/cbf-reports/Climate-Change37bf.pdf>. Thousands of acres of environmentally critical wetlands have been and continue to be at risk. This combination of processes has resulted in approximately one foot of net sea level rise in the Chesapeake Bay over the past 100 years—a rate nearly twice that of the global historic average. According to some scientists, the region might see as much as a three-to-four-foot sea level rise this century.³

40. Additionally, in low-lying areas, storm surges combined with higher sea levels

³ *See, e.g.,* Zhang, Fan & Li, Ming. (2019). Impacts of Ocean Warming, Sea Level Rise and Coastline Management on Storm Surge in a Semi-enclosed Bay. *Journal of Geophysical Research: Oceans*. 10.1029/2019JC015445.

and increasingly erratic storm activity may create a “perfect storm” that would flood thousands of acres. Many of those areas are economically disadvantaged, and the combination of flooding and limited access to emergency facilities—facilities that might themselves be flooded—could be disastrous.

41. CBF owns property throughout the Chesapeake Bay Watershed. CBF operates two environmental centers: the Phillip Merrill Environmental Center in Annapolis, MD and the Brock Environmental Center in Virginia Beach, VA. Both waterfront properties are raised to account for flooding from storms, but both centers are still threatened by sea level rise projected for this region. Additionally, CBF owns farmland in Maryland, including Holly Beach Farm, Harry Green Wildlife Preserve, and Clagett Farm. CBF owns other small islands and marshland in Accomack County, VA and Broad Creek, MD.

42. CBF holds nineteen conservation easements across the watershed in Maryland and Virginia, ranging from small one-acre easements to expansive 120-acre easements. Most of these properties are tidal marsh and are receding due to the erosive effects of sea level rise.

43. CBF’s Clagett Farm is in Upper Marlboro, MD and uses sustainable farming methods to grow vegetables and raise beef cattle and sheep, as well as growing trees and shrubs for restoration projects. Through its Community Supported Agriculture (CSA) program, Clagett Farm sells a variety of organic vegetables to subscribers who invest in a “share” of the Farm’s crop yield at the beginning of the planting season. These subscriptions financially support Clagett Farm. The Farm also grows organic produce that is donated to provide free and reduced-price fruits and vegetables to people living in poverty and near-poverty in Prince George’s County, Maryland. Clagett Farm also operates a native tree nursey, which provides CBF with trees to be potted, transported, and planted throughout the watershed as part of CBF’s restoration

programs.

44. Clagett Farm operates best, and produces its highest yields, with moderate, predictable weather. In 2018, the Farm experienced its wettest year on record. The water-logged soils inhibited plant growth and, in some fields, completely killed crops. This resulted in Clagett Farm's lowest yield in its 20-plus-year history. In 2019, Clagett Farm saw a drought where there were more than three months without soaking rain, along with extremely high temperatures. This led to a steep decline in late summer fruiting crops, such as tomatoes, eggplants, peppers, and beans. And hay fields and pasture grasses stopped growing. A side-effect of these conditions is desperate animal behavior as animals face food and habitat constraints, leading to destruction of crops and fencing.

45. Without predictable weather patterns, Clagett Farm's staff must plant for all possible weather scenarios—planting warm spring crops and cool spring crops simultaneously to ensure there will be some crops to harvest. Likewise, farm staff must plant both water-friendly crops as well as drought-tolerant crops. Under these conditions, staff now expect that in any given year, half of the planted crops will not produce a sustainable yield. Making matters worse, Clagett Farm must shift financial resources to invest in additional fencing, animal control, irrigation systems, and well-digging to protect the crops that are thriving. Ultimately, all of this threatens the financial stability of Clagett Farm. Because Clagett Farm is a CSA and has subscribers who invest in the harvest upfront, multiple seasons of reduced harvest could lead to lower subscriber retention rates, which could result in the Farm selling fewer shares and increasing prices to cover the cost of supplies and labor. If greenhouse gas emissions are not reduced and climate change continues unabated, CBF's Clagett Farm can expect these sporadic weather patterns to continue and/or worsen. As a result, Clagett Farm's financial stability will

continue to be threatened.

46. CBF's education facilities are on the front lines of climate change impacts and CBF has invested significant resources to protect these facilities, especially from sea level rise. CBF operates the Karen Noonan Education Center on the shores of the Bay in Dorchester County, MD. CBF also operates three Island Education Programs on the Eastern Shore of Maryland and Virginia; the Smith Island Environmental Education Center and the Port Isobel Island Education Center's EAST and WEST programs. The Centers are located in the island communities of Smith Island and Tangier Island, respectively, where the economic livelihood of the community is tied directly to the Chesapeake Bay. Due to the many impacts of climate change articulated herein, the commercial watermen's communities of Tangier and Smith Islands will be hard hit, not only by sea level rise but by the loss of fish, oyster, and crab stocks that are integral to their economic livelihoods and well-being. As a landowner in both communities, any impact to the economies of Smith and Tangier will affect CBF's property values, as well as those of our friends and neighbors.

47. CBF's Smith Island Education Center is located in Tylerton, MD on Smith Island. Somerset County, MD, in partnership with the U.S. Army Corps of Engineers and the State of Maryland, built a sea wall to protect Smith Island. But the seawall has become ineffective at preventing "tide overs", whereby the tide is so high it breaches the seawall. This leads to significant nuisance flooding on a near-daily basis. This flooding regularly inundates roads around the Education Center, making access to Smith Island and its buildings increasingly difficult.

48. CBF's Fox Island Environmental Education Center is in Accomack County, VA. The Fox Island Center was built in 1929 as a hunting lodge, which CBF later converted to an

education center. When CBF obtained Fox Island, the deed stated the acreage of the property was 426 acres. The property was appraised in April of 2019, and the estimate of remaining acreage is 34.5 acres. The Fox Island Center was closed after the Fall 2019 education season because of safety concerns due to sea level rise. The surrounding islands that protected the Fox Island Center from high winds have eroded due to sea level rise, leaving the Center unprotected and exposed to high winds that pose a safety issue for students. The emotional loss of this center, which has been in operation for forty years, was felt by CBF staff as well as the innumerable students who first experienced the Chesapeake Bay at Fox Island. Moreover, the unique teaching experience Fox Island provided has now been lost.

49. CBF has invested significant financial resources into protecting the Port Isobel Island Education Center near Tangier Island, VA. CBF has invested more than \$500,000 dollars into shoreline protection projects, including installing rock revetments to protect the dunes that shelter the Center's harbor, and underwater and beach grass plantings to control erosion. Continued sea level rise and extreme weather will require continued improvements to protect Port Isobel.

50. CBF has invested significant resources into protecting the Karen Noonan Center and the roads leading to the Center from increased flooding. CBF installed a breakwater to protect tidal shoreline from erosion and create a safe harbor for boats to access the Center. CBF has spent thousands of dollars to protect and maintain the driveway around the Center, and has also devoted significant staff time to advocating for county and federal partners to repair and maintain the road that leads to the Karen Noonan Center. The road is frequently awash during above-average high tides, which are increasing in height and frequency. The frequency of nuisance flooding is also increasing and often affects other roads leading to this area. This

flooding prevents school buses from traveling on paved county roads as they try to reach the Center. CBF soon anticipates not being able to drive to the Center and transitioning the program to a boat-only program as the road becomes permanently inundated with water. Such a transition will make the program vulnerable to weather conditions on the water and may limit how often visits can occur.

Impact to CBF

51. I understand that climate change and its impacts, including sea level rise, are directly tied to greenhouse gas emissions, including those from vehicle tailpipe pollution. Increased greenhouse gas emissions contribute to climate change and sea level rise in the Chesapeake Bay and further threaten CBF members, programs, and property, and require CBF to expend financial and other resources to protect its assets. I understand that these threats are expected to worsen without meaningful action to reduce greenhouse gas emissions.

52. I understand that EPA and NHTSA issued final rules that collectively allow an increase in greenhouse gases, nitrogen oxides, and other harmful air pollution. I understand that the rules will negatively impact the Chesapeake Bay watershed and may interfere with the goals of the Chesapeake Bay Blueprint and the Chesapeake Bay Watershed Agreement.

53. I also understand that EPA's action will impede states' abilities to implement zero-emission vehicle standards in order to increase the number of ZEVs on their roadways and reduce vehicle-related air pollution. In this way, the rules harm CBF's interest in ensuring the reduction of nitrogen oxides and other air pollution sufficient to meet the goals of the Bay Blueprint and protect the health of its members throughout the watershed.

54. Decisions from the Court finding the rules invalid would allow more stringent standards to stay in place, thereby ensuring reductions in air pollutants. This outcome would

contribute to CBF's organizational mission of improving water quality and achieving the goals of the Bay Blueprint; advance the interests of its members who rely on and value clean air and clean water throughout the watershed; and protect CBF's properties and programs from worsening climate change impacts.

I declare under penalty of perjury and based on personal knowledge that the foregoing is true and correct to the best of my knowledge and belief.

Executed on this 15th day of June 2020.



William C. Baker

DECLARATION OF ESTHER GOOLSBY

I, Esther Goolsby, state and declare as follows:

1. I am forty-three years old. Other than 10 months in Arizona, I have lived in Oakland, CA for my entire life. Oakland is a city in Alameda County. My address is 1144 82nd Ave, Oakland CA 94621.
2. I am currently a core member of Communities for a Better Environment (CBE). I joined CBE as a member in 2011 and was also a CBE staff member for three years. I decided to join CBE after taking one of their toxic tours. Even though I had lived in the same place for twenty years, I did not realize that there were toxic facilities surrounding my neighborhood. The toxic tour changed my life and I decided I had to become involved.
3. I spend a lot of time outdoors. I'm typically outside on a daily basis for more than eight hours. I mostly spend time with my community, talking and getting to know people. I also volunteer at the community garden and spend a lot of time gardening. When I worked for CBE, I spent a lot of time outdoors organizing.
4. Because of coronavirus and my health status I currently stay at home, but I plan to continue these outdoor activities when the pandemic ends.
5. I am very concerned about climate change - the state of our climate is an emergency. One very clear sign of that is that wildfires are getting worse. In my neighborhood, the smoke from the last wildfires was so bad that here on my street

we could not even see the cars in front of us. I took a lot of photos in my community, and around Oakland, just surrounded with smoke.

6. I was a CBE staff member when the last two fire seasons happened. We were like emergency responders, passing out masks to the unhoused communities and to our members. Thinking about the community being affected by the smoke was heavy and took an emotional toll on me. Working for an environmental justice group, we know there are so many toxins in the air that affect our development and affect us long-term, even when the air is invisible. But when wildfires happen, we know that that is when other people are suddenly paying attention. For me and my community, wildfires are making bad air quality even worse.

7. I suffer from asthma and Chronic Obstructive Pulmonary Disease (COPD), so breathing is almost always a problem. The wildfires and the heat exacerbate my health issues and there have been times where I have been outside and have felt like I was going to pass out. My asthma and COPD were worse in the wildfire smoke. You wear a mask even when it restricts your breathing, you wear it anyway because the air is so bad.

8. After the 2018 fires, in May of 2019, I had to go to the hospital because I was having trouble breathing. I had never been treated for not being able to breath before, but the previous fire season had an effect on my breathing. Just knowing

that my lungs are not in a position to handle more fires in the future has taken a toll emotionally.

9. Wildfires are not the only sign of climate change I see. I have noticed the effect of climate change on my neighborhood and my home. My home is shifting and there are backyard floods, so I am trying to fix it now by filling the yard with more dirt. I have also noticed that both of the exit routes from my neighborhood to the closest freeway get flooded in the big rainstorms, so it is harder for me and my neighbors to leave.

10. I also live in an area that does not have many trees, so we get the urban heat island effect. The hot asphalt smells and vapors come up off it. I also live near a lot of polluting industry, like foundries. When the heat happens, it makes everything worse. It makes it very hard to breath. I worry for the children with developing bodies at the elementary school near me.

11. My home does not have air conditioning, and I live on the top floor of the building. This means that heat incidents, when I am forced to be inside, are extremely uncomfortable and unhealthy for me.

12. I go to the Martin Luther King Jr. Shoreline to enjoy the wildlife and the plants, and I worry what climate change will do to the area.

13. My asthma gets worse during heavy traffic too. I live right down the street from International Boulevard, which is always busy with traffic. They took out a

lane of traffic to make a bus route, and you cannot make certain left or right turns, so the cars move even slower now. Sometimes the cars hardly move on International, and it causes drivers to take other streets to avoid the traffic. Drivers come down my street, which is a narrow residential street.

14. I am concerned that increasing emissions from cars will cause health problems for me and my family. I believe that pollution, wildfires, heat, and climate change are all affecting me. Not being able to afford the medication I need and not having insurance is a fear right now.

15. I have had to change my behavior because of all the pollution. I bought masks after the first wildfire and have them on hand all the time. If there is even more pollution from cars I would not to be able to go outdoors as much.

16. I bought an air-filtration system, but it is currently in my mother's home because she suffers from emphysema and asthma. I cannot afford to purchase another one, so I am very concerned about increases in pollution from cars and about climate change impacting me in my home.

17. Depending on grants or if I could afford one, I would buy an electric or hybrid vehicle.

18. If we do not change anything to slow climate change, and just keep going how we are, it is just going to keep getting hotter and wildfires are going to happen more. Knowing how the future looks and projections of wildfires and climate

change is an everyday psychological strain. Learning of my health issues and trying to advocate and still be out there, being able to breathe is a life and death situation for me. That is what this climate and this environment is doing – taking away that ability from me. It is very emotional. I have the whole understanding of the people making these decisions and they are not the people who suffer the trauma of the impacts. I am not saying that they do not care, but we should do some trading places some time so they can breathe the air where I live.

I declare that the foregoing is true and correct to the best of my knowledge and belief.

Executed this 18th day of June 2020, in Oakland, California.

/s/ Esther Goolsby (by permission)
Esther Goolsby

DECLARATION OF TEREZ SANOGO

I, Terez Sanogo, state and declare as follows:

1. I am a member of Communities for a Better Environment. I live in Long Beach, CA. Long Beach is a city in Los Angeles County. My current address is 1120 E 2nd St, Apt 11, Long Beach, CA 90802; until December 2019 I lived at 5437 Cherry Avenue, Suite B, Floor 2, Long Beach, CA 90805 for three years. My partner, Danny Gamboa, lived with me on Cherry Avenue and continues to live there.
2. The apartment on Cherry Avenue is close to several freeways and other sources of air pollution. It is one mile from the 91 Freeway, three miles from the 405 Freeway, and one or two miles from the 710 Freeway. One of the reasons I moved in December 2019 was because of the pollution levels I was being exposed to living in the Cherry Avenue apartment.
3. While California and LA County responses to coronavirus have changed the way I am currently living, in non-pandemic conditions I spend a lot of time outdoors, for both errands and for fun. My partner and I do some of our errands on foot. We walk to places nearby like the grocery store and the post office.
4. On Cherry Avenue, my partner and I would do about a quarter of our errands by bus. When we take the bus, we have to walk outside. One of the bus stops we use is a half a block away, but the stop I used to get to work in non-pandemic

conditions was a twelve-minute walk from my apartment on Cherry Avenue. I would also occasionally ride my bike to work on the LA River path, which runs alongside the 710 Freeway the whole way.

5. I am able to run a lot more errands on foot at my new apartment, but I am still concerned about air pollution because it is still close to the 710 freeway. From my current apartment, the walk to the train I take to work is approximately 15 minutes, and I still intend occasionally to ride my bike to work along the LA River path when my office reopens.

6. I also use my bike to get places other than work, mostly to do errands. I ride my bike to some grocery stores, to ceramics classes I take, and sometimes when I babysit.

7. In non-pandemic conditions, my partner and I go to my partner's nieces' and nephews' baseball games, which are held outside. The baseball games are usually down the street on Cherry Avenue, so they are near all the same freeways as the Cherry Avenue apartment.

8. In non-pandemic conditions, I take classes outside at the Long Beach city parks. My ceramics classes are held at a ceramics studio at a park in an open courtyard. About once a week, my partner and I will also walk outside for fun. We like being outside and spending time together outdoors.

9. I saw on the news that the EPA passed a rule declaring that California can no longer set its own emissions standards under the Clean Air Act. I understand that this means that California can no longer mandate a certain number of electric vehicles on the road each year or set higher emission standards than the federal government. I believe that this will increase the number of vehicles on the road that burn gasoline, and as a result, car emissions are likely to increase.

10. I am very concerned about an increase in gas-powered cars on the road in my community. I know my health, my partner's health, and his family's health are already severely impacted by gas-powered vehicle emissions. An increase in those emissions means higher rates of illness and death in our community.

11. I have personally experienced headaches and shortness of breath as a result of vehicle emissions in my community. I used to work with a mobility justice organization that did a walking audit at Starr King Elementary School in Long Beach. We were seeing if the campus is actually accessible for differently abled folks. This was about a year and a half ago. The school is located right where the 710 and 91 freeways cross. I walked around with a group of people for an hour and started to feel shortness of breath pretty immediately. It lasted the whole time I was there.

12. Sometimes when I ride my bike on the river by the freeway, I feel out of breath. I would ride my bike along the river more if it didn't feel so unpleasant.

13. I alter my schedule to do my errands when there are fewer cars on the road. Cars are dangerous and make the air quality worse in my neighborhood, so I want to protect myself from that if I can.

14. I am concerned that if there were more gas-powered vehicles on the road, I would have more accumulated exposure to emissions over time. That's a problem because it could cause chronic illness or premature death. If there are more cars, I feel the city will invest less in public and active transportation.

15. My partner has been diagnosed with asthma. He moved to Long Beach when he was five years old and was diagnosed with asthma shortly thereafter. He has to manage his asthma daily. He has an inhaler with him at all times.

16. Changes in the air quality impact my partner's ability to breathe. He will start wheezing, then he needs his inhaler. He can't be outside if the air quality is bad. We like to walk in the neighborhood, but we can't do that if the air quality is bad. Also, it's hard to run errands with him when the air quality is bad—even in the car.

17. All of my partner's three siblings also have asthma. My partner's six-year-old nephew has been hospitalized for asthma more than once a year for three years. My partner's sister has been hospitalized for asthma several times as well.

18. I want to buy a car, but I'm thinking about the cost of buying a hybrid or electric vehicle. I would like to have options. If there are fewer electric vehicles on

the market, then there will be more gas-powered vehicles on my list. I would prefer to get an electric vehicle or hybrid. If my options are limited, though, then I might have to buy a gas-powered vehicle.

19. If the EPA rule were struck down and there were more electric vehicles available, I would hope to have a larger list of electric vehicles and hybrids to choose from. I would like to choose a vehicle that fits my needs without contributing to environmental degradation and illnesses associated with poor air quality. Also, in a few years, I'm hoping that when I am able to buy an electric vehicle or if I buy a plug-in hybrid, there will be more infrastructure to charge electric vehicles.

20. I'm interested in an electric vehicle because I would like to contribute to lowering emissions in my community and the state. Both the town of Long Beach, where I live, and other communities in the LA area have active oil extraction sites. I know that these operations are contributing to the poor air quality that my partner, his family and I experience. I would like to contribute to phasing out oil extraction because I know how harmful it is to our environment and to our health. Since we have the technology to not extract petroleum for transportation, we should use that technology.

I declare that the foregoing is true and correct to the best of my knowledge and belief.

Executed this 23rd day of June 2020, in Long Beach, California.

/s/ Terez Sanogo (by permission)
Terez Sanogo

**DECLARATION OF PHILIP B. COUPE
FOR CONSERVATION LAW FOUNDATION**

I, Philip B. Coupe, hereby declare and state:

1. This declaration is based on my personal knowledge, information, and belief. I am over the age of eighteen years and suffer from no legal incapacity.

2. I have been a resident of Maine for 40 years. I live at 345 Mitchell Road in Cape Elizabeth, which is located in Cumberland County.

3. I am currently a member of CLF's Maine State Board. I have served on CLF's Maine State Board for two years and have been a CLF member for ten years. I am a member of CLF because they are one of the most effective non-governmental organizations in New England when it comes to protecting citizens' rights to clean air, clean water and a healthy, sustainable environment.

4. Among the most important current and future threats to Maine's natural and built environment is the ongoing damage due to anthropogenic climate change. I am aware of the science documenting the existence of climate change, its causes, and its potential adverse impacts on public health and welfare and the environment. I understand that human activities—including transportation—have resulted in elevated levels of carbon dioxide pollution in earth's atmosphere. Carbon dioxide and other greenhouse gases trap heat in the Earth's atmosphere and are now causing a variety of climatic and environmental changes, including, but not limited to, increased local and global temperatures, sea level rise, and increases

in the frequency and intensity of extreme weather events, including increased precipitation and heavy downpours in the northern United States.

5. I understand that 2019 was the second hottest year on record for the United States and that this is part of a pattern of increased warming globally and in my region. Between 1895 and 2011, average annual temperatures in Maine, indeed in the entire Northeast U.S., increased by almost two degrees Fahrenheit, and precipitation increased by more than ten percent. I am also aware that 2019 was the wettest year to date on record for the contiguous U.S. Additionally, I understand that sea level rise is already documented in Maine and that global sea levels are projected to rise up to 6.5 feet by 2100, substantially increasing coastal flooding risks in my region.

6. I am familiar with the final rule published by the Environmental Protection Agency (EPA) and National Highway Traffic Safety Administration (NHTSA) as *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program* (Sept. 27, 2019) (Part I Rule). I understand that in this action, now challenged by CLF, EPA withdrew pieces of a waiver it had previously granted to California for its vehicular emissions standards and purported to interpret the law to prohibit other states from following California's standards. I also understand that NHTSA declared California's greenhouse gas and zero emissions vehicle standards to be preempted by federal law. The Part I Rule

purports to preempt States – including Maine – from adopting or enforcing standards to control vehicular emissions of greenhouse gases, including zero emission vehicle requirements.

7. The Part I Rule harms me and my family, because preempting state standards will increase greenhouse gas emissions as well as air pollution in Maine. My family enjoys spending time outdoors and participating in outdoor activities including camping, swimming, canoeing, fishing, biking, hiking, and running, as well as outdoor sports like soccer, ultimate frisbee, and lacrosse. Both of my sons (age 15), my daughter (age 17), and I suffer from episodic asthma, which can cause shortness of breath, wheezing, and coughing. Our symptoms are aggravated by ground-level ozone and ozone smog. We are, therefore, directly impacted by climate change because increased temperatures lead to more frequent bad ozone days, exacerbating our symptoms. This will make it harder for us to breathe when we attempt to exercise and recreate outdoors and will force us to curtail these activities. If climate-related temperature rises remain unchecked, these bad ozone days will only continue to increase, and the associated adverse health impacts will be compounded. Greenhouse gas emissions will increase as a result of the Part I Rule, thereby contributing to climate change and increasing the number of days our asthma symptoms are exacerbated.

8. My three children are an important reason why I am so concerned about the issue of climate change. I worry about how the changing climate will impact their health and their futures. I believe we must do everything we can to protect them from the adverse effects of climate change.

9. I am also the Co-founder and Managing Partner of a solar energy company called ReVision Energy. Our company mission is to transition northern New England from a fossil fuel-based economy to a sustainable, renewable energy-based economy. As a 100% employee-owned company and certified B Corp, we are committed to creating the better future we know is possible for ourselves and future generations by drastically reducing fossil fuel consumption and the associated emissions. We are particularly focused on helping consumers acquire solar electric systems and electric vehicle charging stations so they can meet their transportation needs with zero emissions.

10. Recognizing that more than 50% of northern New England's carbon pollution comes from vehicle tailpipe emissions, ReVision Energy has created an Electric Vehicle Charging division as part of its overall business strategy to reduce fossil fuel consumption and associated emissions. Zero-emission electric vehicles and low-emission plug-in hybrid vehicles are critically important to the regional effort to reduce carbon pollution and ReVision Energy is actively participating in the market-based business solution of installing "EVSE" (electric vehicle supply

equipment) to encourage adoption of electric vehicles and plug-in hybrid electric vehicles. ReVision Energy has become a market leader in the installation of electric vehicle charging stations in Maine, New Hampshire and Massachusetts for homeowners, commercial businesses, nonprofits, schools and municipalities.

11. The Part I Rule harms ReVision Energy's business interests.

Disallowing state zero emission vehicle requirements will lead to lower availability and fewer sales of electric vehicles. This will lead to less consumer demand for ReVision Energy's EVSE installation services. This will materially harm ReVision's business interests by reducing revenues and profits. As the managing partner of ReVision Energy, I and other ReVision Energy employee-owners stand to lose business and money due to the Part I Rule.

12. It is my opinion that the Part I Rule is an illegal assault on citizens' rights to enjoy clean, healthy air and water. It is worth noting that electric vehicles are roughly 50% less expensive to operate than internal combustion engine vehicles because electric vehicles are vastly more efficient and because they require virtually zero maintenance (no oil changes, no engine work, etc). For these economic reasons, and because electric vehicles drastically reduce carbon pollution, electric cars are superior to the more expensive and polluting internal combustion engine vehicles. ReVision Energy is building the EVSE infrastructure that enables this beneficial transition.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 15th day of June, 2020.

Phil Coupe

Philip B. Coupe

**DECLARATION OF DANIEL W. HILDRETH
FOR CONSERVATION LAW FOUNDATION**

I, Daniel W. Hildreth, hereby declare and state:

1. This declaration is based on my personal knowledge, information, and belief. I am over the age of eighteen years and suffer from no legal incapacity.

2. I live at 55 Thornhurst Rd, Falmouth, Maine 04105. I have been living at this address since approximately 1995. I rented the property initially and purchased it in 2003.

3. I am a member of Conservation Law Foundation (CLF). I have been a member since 1994. I joined the Maine State Board of CLF in January 2018. I continue to be a member of CLF because of their promotion of policies to implement a transition to a clean energy economy and away from reliance on fossil fuels. This is important to me because I believe that climate change poses a catastrophic threat to our economy and to our society.

4. The property where I live is on a cove in Casco Bay. I own approximately 460 feet of coastal waterfront land. At high tide, the high-water mark comes, in my approximation, to about 50 feet from the nearest corner of my house and reaches an area of steep banking. The banking is about 25 to 30 feet high and is composed of ledge at the base. Most of the rest of the banking is made of clay and is vegetated, except where the erosion is worst. At low tide, there are roughly 300 yards of mudflat between the seawater and the base of the banking. My house sits above, on clay soil atop ledge, about 50 feet from the edge of the banking.

5. In storms, the water comes higher up the banking than it does at other times. In some storms, the higher water levels have caused erosion at the base. The water has begun to undercut the banking, and there are a few places where the edge is sagging as a result.

6. I am aware that climate change poses a threat to coastal property and buildings such as my own. My understanding is that climate change is driving sea level rise because of the

melting of glaciers and ice caps. The warming atmosphere is also driving sea level rise because as ocean water temperatures warm, the ocean expands. The rate of glacial melt seems to be increasing. It is my understanding, based on the U.S. Fourth National Climate Assessment and other resources, that the problems associated with climate change will only continue to build. I also understand from the report that sea level rise in New England is projected to exceed the global average on a yearly basis. I have looked at maps of certain areas of coastal Maine depicting projections of sea level rise and I know that it will have an increasing impact on my community and my home.

7. I am aware from the U.S. Fourth National Climate Assessment that sea level rise has contributed to higher storm surges that extend further inland, and that climate change is expected to lead to extreme hurricanes that are stronger and more frequent. I have read that there are two dynamics at play – the atmosphere is warmer, and there is more moisture in it. Climate change results in systemic impacts on the formation of storms and makes them more intense. As a coastal homeowner, this is particularly concerning for both economic and safety reasons. The report forecasts that future impacts from intense storms and sea level rise will lead to increased coastal erosion, necessitating ongoing efforts to protect (or adapt) existing manmade structures. Sea level rise caused by climate change threatens the banking protecting my home from the ocean, while storm surge levels and increasing intensity of storms could exacerbate the erosion. My personal experiences with storms on my property over the last 20 plus years gives me the impression that storms have increased in intensity. Based on my own observations, the storm surges also appear to be higher than they used to be. The best means I have of judging the tide levels is a rock in the middle of the cove. Though the top is always above water, in my perception, the highest tides are covering more of it than they used to.

8. It is very present in my mind that my house and property are under threat from these impacts of climate change. Because of climate change and impacts on the eroding shoreline, I expect that it will become impossible to live there at some point in the future.

9. The U.S. Fourth National Climate Assessment's projections of more and stronger storms also concerns me because of a tree on the ocean-side of the house, about 38 feet from the building. Our house has previously experienced storms with sustained winds of 60 mph. I have been cutting the tree back dramatically because I am worried that increasing wind gusts due to more extreme storms could cause the tree to snap mid-trunk. The tree could cause damage to my house if it were to break in a storm.

10. My enjoyment of my home is dependent upon stable sea levels and weather. Worsening impacts of climate change threaten my property, my economic investment in my home, and my enjoyment of my house and land.

11. I understand the challenged action to be the National Highway Traffic Safety Administration's purported declaration that state greenhouse gas and zero emission vehicle regulations are preempted by federal law. I also understand that the U.S. Environmental Protection Agency has withdrawn parts of California's waiver and purported to prohibit states, like Maine, from continuing to implement certain California standards. These state standards are critical to reducing carbon emissions from the transportation sector and to addressing climate change.

12. The federal government's action harms me because it impairs the ability of states to regulate greenhouse gas emissions from vehicles. This means that more emissions will be released, contributing to climate change. Actions that contribute to climate change harm me by

increasing the risk of sea level rise and storm intensity, which increases the risk that my property will be harmed in a storm. This adversely impacts my economic and social well-being.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 15th day of June, 2020.



Daniel W. Hildreth

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**DECLARATION OF SEAN MAHONEY
FOR CONSERVATION LAW FOUNDATION**

I, Sean Mahoney, hereby declare and state:

1. This declaration is based on my personal knowledge, information, and belief. I am over the age of eighteen years and suffer from no legal incapacity.

2. I am the Executive Vice President of Conservation Law Foundation (CLF), a membership-supported nonprofit corporation organized and existing under the laws of the Commonwealth of Massachusetts. I have held this position since 2013. I also serve as the Director of CLF's Maine Advocacy Center, a position I have held since 2007.

3. In my capacity as Executive Vice President, I am familiar with CLF's mission: to protect New England's environment for the benefit of all people. CLF uses the law, science and the market to create solutions that preserve our natural resources, build healthy communities, and sustain a vibrant economy.

4. Given my role as Executive Vice President, I also understand the nature and scope of CLF's organizational structure. Founded in 1966, CLF has its principal office at 62 Summer Street, Boston, MA. CLF also has offices in Maine, New Hampshire, Rhode Island and Vermont, and its members reside throughout New England and other states. CLF has more than 5,000 members.

5. CLF works on behalf of its members toward comprehensive long-term solutions to environmental challenges. Our members rely upon CLF to

advocate for and safeguard the health, quality of life, and economic prosperity of our communities for generations to come, with a priority of meeting the challenge of climate change. CLF engages in federal and state regulatory and legislative advocacy as well as policy development and litigation to work toward a healthy climate and resilient communities across New England.

6. One of CLF's areas of focus is reducing emissions from the transportation sector to avert the worst impacts of climate change and protect public health. Across the country, the transportation sector is the greatest source of greenhouse gas emissions. In New England, the transportation sector contributes an even higher percentage of overall greenhouse gas emissions. CLF's mission entails working to reduce vehicular emissions.

7. CLF's work aimed at reducing emissions from the transportation sector includes, for instance: writing to former U.S. Environmental Protection Agency (EPA) Administrator Scott Pruitt opposing the roll back of environmental safeguards under the Clean Air Act that reduce pollution from motor vehicles and engines; commenting to urge the Department of Transportation's (DOT) National Highway Traffic Safety Administration (NHTSA) to conduct a comprehensive analysis of environmental consequences of revisions to fuel standards; writing to DOT to oppose weakening rules regarding fuel efficiency and fuel consumption; challenging the EPA issuance of the Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles; and

challenging *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks*, 85 Fed. Reg. 24,174 (Apr. 30, 2020), *see* Case Nos. 20-1168, 1169.

8. At the state level, CLF’s advocacy aimed at reducing vehicular emissions includes, for instance: promoting zero emission vehicle legislative policies, including by submitting oral and written comments; serving on the Massachusetts Zero Emission Vehicle Commission to recommend policies increasing access to electric vehicle infrastructure; intervening in utility rate cases and other utility proceedings before state public utilities commissions to advocate for investments and rate structures promoting beneficial electrification of the transportation sector; developing regional transportation policy white papers; and submitting comments on state transportation plans. CLF regularly submits comments on rulemakings and challenges regulations by petition for reconsideration to the agency or by seeking judicial review in court. CLF’s members rely on CLF to advocate for state greenhouse gas emissions standards and zero emission vehicles programs.

9. I am familiar with *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program* (Sept. 27, 2019) (Part I Rule).

10. The Part I Rule purports to preempt States – including those in New England – from adopting or enforcing standards to control vehicular emissions of greenhouse gases, including zero emission vehicle requirements, which harms

CLF and its members. The Part I Rule will increase vehicular emissions of both greenhouse gases as well as harmful air pollution caused by pollutants such as oxides of nitrogen, volatile organic compounds, fine particulate matter, and sulfur oxides, as well as hazardous air pollutants.

11. CLF's members' injuries due to the Part I Rule include economic and recreational harms from property damage caused by climate change. CLF's members' enjoyment of and investment in their homes and coastal property is threatened by the amplified storm surges and higher sea levels that are a result of climate change. Climate change directly threatens CLF's members' coastal property and homes.

12. The Part I Rule also harms CLF's members that work in or own businesses in the electric vehicle or electric vehicle service equipment industries. The Part I Rule will inflict economic harm on these members by depressing demand for their services.

13. Additionally, the Part I Rule harms CLF's members by negatively impacting air quality in New England states, both by increasing air pollution levels and by contributing to climate change, which increases the number and severity of bad ozone days. This exacerbates symptoms of respiratory illnesses suffered by CLF's members, such as asthma.

14. The Part I Rule harms CLF because it frustrates the organization's mission to protect New England's environment for the benefit of all people, which

entails reducing vehicular emissions. The Part I Rule will prompt CLF to expend resources to counteract its harms. The Part I Rule will necessitate additional federal and state rulemakings and other actions to achieve New England states' decarbonization targets and other climate change objectives. CLF will be forced to devote time and resources to petitioning for and participating in those rulemakings.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 15th day of June, 2020.

A handwritten signature in blue ink that reads "Sean Mahoney". The signature is written in a cursive style with a large initial "S".

Sean Mahoney

DECLARATION OF SARA CROSBY

I, Sara Crosby, state and declare as follows:

1. I am over 18 years of age and competent to give this declaration. I have personal knowledge of the following facts and, if called as a witness, I would testify competently to them. As to those matters that reflect an opinion, they reflect my personal opinion and judgment on the matter.

2. Currently, I live in Columbus, Ohio, but I grew up in Grand Isle, Louisiana. Grand Isle is a narrow barrier island in the Gulf of Mexico. I lived in Grand Isle and in Cut Off, a small town a few miles up the bayou from the island, from the time that I was born until I went away for college when I was 17 years old. My parents still own and live in the house that I grew up in. That property has been in my family for about 200 years. My parents also own two rental properties in Grand Isle. My sister and I will inherit the properties from my parents after they pass away. I would like to move back to Grand Isle and live in the house that was my childhood home and has been in my family for generations.

3. During the past several years, Grand Isle has experienced intensified storms and flooding. The storms and flooding have negatively impacted, and continue to negatively impact, the existence and value of the property that my family owns in Grand Isle.

4. For example, when Hurricane Katrina hit in 2005, my parents were forced to evacuate. It was a couple of months before anyone was allowed back on the island. The storm surge generated by Hurricane Katrina caused my parents' house to flood with about six feet of water. Both rental properties also flooded. My parents lost almost everything that they owned, including some items that could not be replaced. For example, my great-grandmother was a photographer and many of her old photographs were destroyed. The salt water caused significant

damage to property. The house where my parents live is made out of cypress, which is able to maintain itself pretty well, but the entire house had to be gutted. Insurance helped cover some of the repair costs, but my family was still required to incur significant out-of-pocket costs to repair the damage.

5. Now, even a relatively small amount of rain causes flooding in areas of the island that previously didn't flood, for example, areas in the middle of the island that are not right next to the water. My parents have also noticed flooding on their property that previously would not have occurred with a similar amount of rain. There is also increased flooding on Louisiana Highway 1 (LA 1), which is the only land access to or from Grand Isle.

6. Many properties are for sale in Grand Isle, but hardly anyone is buying them. My family feels like it doesn't have any good options when it comes to the properties. We don't want to sell them, but we feel like we should. However, even if we decided to sell the properties, we'd have to sell at a very low price because so many properties are for sale and no one is buying because they know that the island is threatened.

7. The price of flood insurance has also significantly increased in the past several years. My understanding is that my parents are currently paying about \$5,000 per year for flood insurance.

8. I have been a member of Environment America since about 2016. I became a member of Environment America because I have a young daughter, and I am very frightened and concerned about the world that I'm leaving for her. I am also concerned that global warming and the rising sea level threatens the value and existence of my family's property in Grand Isle, and I might not be able to pass that property on to my daughter as I would like.

9. I know that strong standards for greenhouse gas emissions and fuel economy for cars were put in place during the Obama administration and that the Trump administration wants to reverse course and roll back these strong standards. I know that California and other states want to be able to keep stronger emissions standards. I support Environment America's efforts to oppose the Trump administration's plans and keep the stronger standards in place.

I declare under penalty of perjury that the foregoing is true and correct.



Sara Crosby
Columbus, Ohio

5/28/20

Date

DECLARATION OF JAMES AUSMAN

I, James Ausman, declare as follows:

1. I am currently a member of Environmental Defense Fund (EDF). I reside in San Francisco, California with my wife and two daughters, who are 9 and 12 years old. I have resided in California for more than 47 years. I received my bachelor's degree in Biophysics from the University of California, Berkeley and my area of expertise is in engineering project management.

2. I understand that California has long experienced extraordinary air pollution challenges. Growing up as a child with asthma in Riverside, California I frequently experienced acute asthma symptoms such as shortness of breath and tightening in my chest. As an adult living with asthma I chose to move to San Francisco with my family in 1993 because of its superior air quality.

3. I am familiar with, and deeply concerned about, the impacts of climate change due to greenhouse gas emissions. I am aware of the latest scientific evidence, which concludes that warming of the climate is unequivocal, that it is extremely likely that human influences have been the dominant cause of this warming since the mid-20th century, and that continued emissions of greenhouse gases will cause further warming.

4. This evidence demonstrates that climate change is posing a significant threat to the wellbeing of humans, wildlife, and the natural environment. For instance, I am aware of scientific evidence suggesting that certain types of extreme weather events—including heat waves, heavy downpours, and, in some areas, floods and droughts—have become more frequent and/or intense. Studies also confirm that warming is causing sea levels to rise, oceans to become more acidic, and snowpack to decline.

5. I see many of these impacts occurring in California, where my family and I live and recreate. For instance, Californians are experiencing drought and increased incidence of wildfires, reduced snowfall in the mountains, and an increase in both the occurrence and severity of extreme weather events like droughts and heat waves.

6. The evidence also shows that these and other changes threaten human health. For example, among other things, climate change is considered a key driver of the drought and high winds that have exacerbate wildfires in California.¹ Wildfires can cause personal injury, damage infrastructure, and contribute to worsening air pollution. I am aware that the 2018 California wildfire season was the most destructive in the state’s history with 1.8 million acres burned, 17,000 residences and

¹ California Department of Forestry & Fire Protection, 2019 Fire Season, <https://www.fire.ca.gov/incidents/2019/10/23/> (last visited November 11, 2019).

700 businesses destroyed, and more than 100 fatalities across the state.² In 2019, over 250,000 acres burned, destroying over 700 structures and killing three people.³

Climate change also leads to increased ground-level ozone formation, and exposure to ozone can lead to and exacerbate a variety of respiratory and cardiovascular problems, including asthma.

7. Those who suffer from respiratory illness are disproportionately impacted by poor air quality exacerbated by climate change. I have suffered from asthma since childhood. When I was a child, I had two hospital admissions due to difficulty breathing caused by bronchitis, which was likely exacerbated by poor air quality. Over the years I have experienced acute asthma symptoms including shortness of breath requiring me to visit the Emergency Room and reduce outdoor physical activity, wheezing, many cases of bronchitis and pneumonia, and shortened vacations.

8. I have used several medications and inhalers throughout the years to treat my asthma. I currently treat my asthma with a steroidal inhaler and allergy medication administered in a series of shots. I have a rescue inhaler containing albuterol and Prednisone for emergencies.

² Joseph Serna, 2018 was California's worst year for fire ever, federal report confirms, Los Angeles Times (March 9, 2019), <https://www.latimes.com/local/lanow/la-me-ln-california-fires-record-report-20190309-story.html>.

³ CAL FIRE, 2019 Incident Archive, <https://www.fire.ca.gov/incidents/2019/> (last visited May 24, 2020).

9. These treatments are expensive and time consuming. Insurance does not cover the full cost of my asthma treatments and multiple treatments have cost me thousands of dollars. I also spend hours traveling to and from the doctor's office in addition to time spent meeting with physicians and receiving treatment.

10. My family and I enjoy spending time outdoors and frequently engage in camping, hiking, bicycling, and fishing.

11. Following exposure to degraded air quality—including smoke from climate change-exacerbated wildfires, and high ozone levels—I have experienced acute asthma symptoms including shortness of breath and tightness in my chest. Because exposure to air pollution can exacerbate my asthma symptoms, I am forced to limit my time engaging in outdoor activities when air quality is poor. For example, when ozone levels are high I refrain from riding my bike and limit the time I spend outside. Additionally, the acute asthma symptoms I experience during exposure to air pollution have caused me to cut short family vacations and to miss work.

12. In August of 2017, during a family trip to Mexico City following time spent outdoors, I began to have trouble breathing and started to feel disoriented. Over time my symptoms worsened even as I remained indoors. I began to experience shortness of breath, and was unable to lay down due to difficulty breathing when prone. I continued to experience these symptoms until a doctor could travel to and treat me by administering a steroidal (dexamethasone) shot.

13. More recently, I experienced acute asthma symptoms as a result of exposure to wildfire smoke while on vacation with my family in Yosemite National Park in early August of 2018. The Ferguson Fire that started in Sierra National Forest located south of Yosemite had been burning in a northwest direction during the weeks leading up to our vacation.⁴ Within a day of arriving at the Evergreen Lodge located near Hetch Hetchy Valley in the northwestern portion of the Park, I began to experience shortness of breath and to feel lethargic. During my second night at the Park, I could not sleep and had trouble breathing. My wife and I feared that I would again have to receive medical treatment to alleviate my symptoms and so we returned home, ending our vacation two days early. Shortly after we left, Yosemite Valley residents were evacuated, and the National Park Service closed the park to the public.⁵

14. California wildfire smoke has caused me to experience acute asthma symptoms in the past. In the fall of 2017, as several wildfires burned in Sonoma and

⁴ The National Wildfire Coordinating Group, Incident Information System, Ferguson Fire, <https://inciweb.nwcg.gov/incident/5927/> (“The Ferguson Fire started on Friday night, July 13 at 9:36 PM in the South Fork Merced River drainage on Sierra National Forest...”)

⁵ The National Wildfire Coordinating Group, Incident Information System, Ferguson Fire, <https://inciweb.nwcg.gov/incident/5927/> (“On August 3 the residents of Yosemite Valley were evacuated and the Park Service closed it to the public due to multiple hazards from firefighters working in the area.”).

Santa Rosa California,⁶ smoke blew into San Francisco⁷ and I started to experience wheezing and shortness of breath on exertion. During this time, the Environmental Protection Agency (EPA) designated San Francisco's air quality as "very unhealthy,"⁸ indicating that everyone, not just those with sensitivities, may experience negative health impacts.⁹ I again started to experience asthma symptoms. In an attempt to limit my exposure, I bought face masks from a hardware store to wear until the smoke subsided and air quality improved. The symptoms I experienced as a result of this exposure caused me to miss about two days of work.

15. I understand that the transportation sector is the leading cause of carbon dioxide (CO₂) emissions in the United States and that the majority of greenhouse gas emissions from the transportation sector are from passenger cars and light trucks.¹⁰

⁶ Peter Fimrite, Jill Tucker, Kurtis Alexander and Demian Bulwa, Wine Country wildfires leave a trail of death, devastation across the North Bay, San Francisco Chronicle (Oct. 10, 2017), <https://www.sfchronicle.com/news/article/2-big-wildfires-prompt-evacuations-in-Napa-County-12262945.php&cmpid=twitter-premium>

⁷ Brock Keeling, Smoke and ash covering San Francisco: How bad is it and how long will it last?, Curbed San Francisco, (updated Oct. 10, 2017), <https://sf.curbed.com/2017/10/9/16447874/smoke-ash-fire-air-quality-napa>

⁸ Brock Keeling, Smoke and ash covering San Francisco: How bad is it and how long will it last?, Curbed San Francisco, (updated Oct. 10, 2017), <https://sf.curbed.com/2017/10/9/16447874/smoke-ash-fire-air-quality-napa>

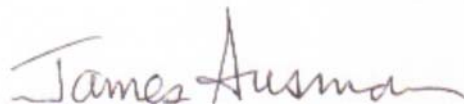
⁹ Environmental Protection Agency, AirNow, Current Air Quality Index, <https://airnow.gov/index.cfm?action=airnow.main>

¹⁰ EPA, *Sources of Greenhouse Gas Emissions-Transportation*, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions#transportation> (last updated April 11, 2018).

16. I am aware that EPA and the National Highway Traffic Safety Administration recently finalized regulations that dramatically weaken the federal greenhouse gas standards for light-duty vehicles, and that declare state greenhouse gas standards for vehicles and state zero-emission vehicle standards unlawful.

17. I am deeply concerned that these new rules will increase climate-harming and ozone-forming pollution, intensifying and extending California's wildfire season and likewise worsening ground-level ozone pollution. These pollutants present an imminent and concrete injury to my health and well-being and that of my family. More intense wildfires likewise threaten the survival, health, and natural beauty of the ecosystems where I live and recreate.

I declare under penalty of perjury that the foregoing is true and correct.



James Ausman

Executed on June 1, 2020

DECLARATION OF DYLAN BROCK

I, Dylan Brock, declare as follows:

1. I am a member of Environmental Defense Fund (EDF). I reside in Denver, Colorado. I have lived in Denver since 2015.
2. I am a pediatric neurologist at Children's Hospital Colorado. As a pediatric physician, I understand that children are particularly vulnerable to air pollution because they typically spend more time outdoors than adults, and because their lungs are still developing.
3. I have a 16-month-old daughter who loves to be outside, and spends time playing in our backyard every day.
4. I am aware that Denver County, where my family and I reside, is in nonattainment with EPA's health-based ozone standard. I understand that this means Denver County has unhealthy levels of ground-level ozone, or smog.
5. I am familiar with the Suncor refinery off Brighton Boulevard in Denver. The facility sits between three major highways—I-25, I-70, and I-270. I understand that it produces about a third of the gasoline consumed in Colorado.¹

¹ Moe Clark, Suncor oil refinery agrees to \$9 million settlement with Colorado for air quality violations in Commerce City (March 6, 2020), <https://coloradosun.com/2020/03/06/suncore-commerce-city-colorado-settlement-air-quality/>.

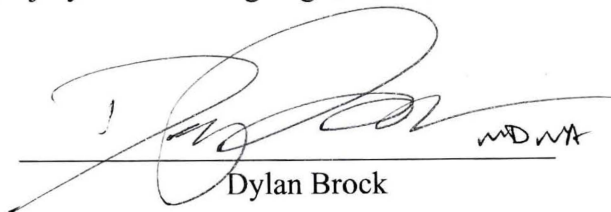
According to Google Maps, I-270 runs within 2,000 feet from the refinery. I-25 and I-70 run within two miles from the refinery.

6. The Suncor refinery is notorious for permit exceedances, evidenced by periodic local news reports of air and water pollution events caused by malfunctions at the complex.²
7. I live approximately six miles from the refinery and pass it frequently when I drive with my daughter in the car on I-25, I-70, and I-270. I use these highways on at least a weekly basis. I use stretches of I-25 and I-70 that pass the refinery to get from my home to other parts of Denver, and to get to the recreation areas west of the city. I use the stretch of I-270 that directly passes the refinery to get to Boulder and recreation areas northwest of Denver. When we near the refinery from I-270 the fumes pervade our car.
8. I am aware that the Environmental Protection Agency (EPA) and National Highway Traffic Safety Administration (NHTSA) have recently issued a rule that dramatically weakens the federal greenhouse gas and fuel economy standards for passenger vehicles. I understand that this rule will increase fuel consumption—and demand for gasoline—compared to the prior standards.

² See, e.g., *id.* (reporting that the refinery “emitted volatile organic compounds in excess of its permit, including sulfur dioxide, hydrogen sulfide, hydrogen cyanide, nitrogen oxides, carbon monoxide, and particulate matter.”).

9. In the course of my daily life I will continue to drive in close proximity to the Suncor refinery with my daughter in tow. I am deeply concerned that this rule will result in an increase in emissions of dangerous pollution from the refinery—directly impacting my health and the health of my daughter—both because we will have to continue driving in close proximity to the refinery, and because the refinery will contribute more ozone-forming pollution to the already unhealthy ozone levels in Denver county.

I declare under penalty of perjury that the foregoing is true and correct.



A handwritten signature in black ink, appearing to read 'Dylan Brock', is written over a horizontal line. To the right of the signature, the initials 'MDWA' are written in a smaller, less legible hand.

Executed on May 29, 2020

DECLARATION OF ARTHUR P. COOLEY

I, Arthur P. Cooley, declare as follows:

1. I am a member of Environmental Defense Fund (“EDF”) and have been a board member since I and several other scientists founded EDF on Long Island, New York, in 1967. I reside in La Jolla, a neighborhood in San Diego, California, having moved here from New York in 2003.

2. I have a graduate degree in biology from Cornell University, and am a retired high school biology teacher. I am also a former adjunct Associate Professor in the Marine Sciences Research Center at Stony Brook University in Stony Brook, New York, a part of the New York State University System. In that role, I taught marine biology to secondary school teachers for seven summers. I served for 20 years as a Naturalist and Expedition Leader for Lindblad Expeditions, an organization that offers small-ship expedition cruises that give passengers the opportunity to encounter some of the world’s most pristine places with the experts who know them best. As a naturalist and expedition leader, I have taught guests about the natural world and have coordinated our guests’ outdoor activities. Through this process I have traveled to all seven continents and learned a great deal about the birds, whales, geology, and other natural phenomena in these areas.

3. I am familiar with and concerned about emissions of greenhouse gases, which are causing climate change. I am aware of the latest scientific evidence,

which concludes that warming of the climate is unequivocal, that it is extremely likely that human influences have been the dominant cause of this warming since the mid-20th century; and that continued emissions of greenhouse gases will cause additional warming.¹

4. I understand that climate change poses an imminent threat to human health and the environment. I am aware of science suggesting that certain types of extreme weather events—including heat waves, heavy downpours, and, in some areas, floods and droughts—have become more frequent or more intense due to climate change.² Data also shows that warming is causing sea levels to rise; oceans to become more acidic;³ and snowpack to decline.⁴ California’s Fourth National Climate Assessment projects that San Diego County, in which I live, will see

¹ International Panel on Climate Change, Understanding Global Warming of 1.5°C, Summary for Policymakers, available at <https://www.ipcc.ch/sr15/chapter/spm/> (“Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels, with a likely range of 0.8 °C to 1.2°C. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate.”).

² International Panel on Climate Change, Understanding Global Warming of 1.5°C, 3.4.2.2 Extreme Hydrological events (floods and droughts), *available at* <https://www.ipcc.ch/sr15/chapter/chapter-3/>

³ *See generally* International Panel on Climate Change, Understanding Global Warming of 1.5°C, 3.4.4 Ocean Ecosystems, *available at* <https://www.ipcc.ch/sr15/chapter/chapter-3/>

⁴ International Panel on Climate Change, Understanding Global Warming of 1.5°C, 3.4.9.1 Tourism, available at <https://www.ipcc.ch/sr15/chapter/chapter-3/> (“Studies from 27 countries consistently project substantially decreased reliability of ski areas that are dependent on natural snow, increased snowmaking requirements and investment in snowmaking systems, shortened and more variable ski seasons...”).

increases in temperature of between five and ten degrees Fahrenheit by the end of this century.⁵ Such changes also threaten human health. For example, among other things, increasing temperatures caused by climate change contribute to deteriorating air quality by exacerbating ozone pollution.⁶ California is home to seven of the ten most smog-polluted cities in the nation.⁷ The San Diego region in which I live, was recently ranked number 6 out of 228 metropolitan areas for greatest number of high ozone days.⁸

5. I also understand that immediate action to reduce greenhouse gas emissions is necessary to mitigate the impacts of climate change. Incremental actions addressing significant emissions sources can lessen harms associated with a changing climate and can reduce the risk that the climate system reaches certain

⁵ California's Fourth Climate Change Assessment, San Diego Region Report, at 6 (2019) <https://www.energy.ca.gov/sites/default/files/2019-07/Reg%20Report-%20SUM-CCCA4-2018-009%20SanDiego.pdf>

⁶ See American Lung Association, 2019 State of the Air Report, Key Findings Ozone Pollution, available at <https://www.lung.org/our-initiatives/healthy-air/sota/key-findings/ozone-pollution.html> (“Increased heat in 2017 likely drove this increase in ozone. Warmer temperatures stimulate the reactions in the atmosphere that cause ozone to form, and 2017 saw the second warmest temperatures on record in the United States.”).

⁷ American Lung Association, 2019 State of the Air Report, Most Polluted Cities, <https://www.lung.org/our-initiatives/healthy-air/sota/city-rankings/most-polluted-cities.html>.

⁸ American Lung Association, 2019 State of the Air Report, Most Polluted Cities, San Diego-Chula Vista-Carlsbad, CA, <https://www.lung.org/our-initiatives/healthy-air/sota/city-rankings/msas/san-diego-chula-vista-carlsbad-ca.html#ozone>.

“tipping points”—reflecting abrupt or irreversible changes in climatic conditions.⁹

Meaningful actions in the United States can also help to encourage other countries to take similar action.

6. My home in La Jolla is one block from the ocean. The ability to live so close to the ocean and the beach was a significant reason why my wife and I chose this residence and it features prominently as a factor in the economic value of our property. I routinely visit the ocean where I walk along Windansea beach, and intend to continue to do so. I also visit, examine, and immensely enjoy the biology and ecology of the ocean shore. I have a significant recreational, aesthetic, and personal connection to this particular area of the ocean and Windansea beach that I regularly visit. I will not be able to continue to enjoy our property and my current recreational routine if the sea level continues to rise and the current beach changes or disappears.

7. Indeed, there is already documented sea level rise in San Diego coastal communities,¹⁰ and Windansea beach on which I take frequent walks is now

⁹ U.S. Executive Office of the President, *The cost of Delaying Action to Stem Climate Change*, at 20 (July 2014) (“[T]he Earth’s climate history suggests the existence of ‘tipping points,’ that is, thresholds beyond which major changes occur that may be self-reinforcing and are likely to be irreversible over relevant time scales.”).

¹⁰ Erik Anderson, *Sea Level Rise Could Sink California Property Values*, KPBS (June 18, 2018), <https://www.kpbs.org/news/2018/jun/18/sea-level-rise-could-sink-california-property-valu/>

completely inundated in high surf and high tide conditions.¹¹ Recent analysis projects that along the San Diego County coastline, sea levels will rise by one foot by the middle of this century.¹² The most recent United States climate assessment also found that “[w]ithout significant reductions in global greenhouse gas emissions and regional adaptation measures, many coastal regions will be transformed by the latter part of this century.”¹³ If greenhouse gas emissions continue unabated and the sea level continues to rise, I am concerned that the sandy beach will disappear, and I will be unable to enjoy this activity.

8. As a biologist who studies nature, I spend extensive time outside, along the coast and the beach, to carry out my work. As a naturalist for Lindblad Expeditions, my duties included teaching guests about many different types of wildlife including, birds, whales, and dolphins, and also educating guests about the geology of the areas we visited. As an Expedition Leader, I coordinated all the activities of the guests, which included landings, zodiac cruises, lectures, arrivals,

¹¹ Matthew Baldwin, *Those Giant Tides Are Worse Than Ever and May be Hint of What's to Come*, Voice of San Diego (Jan. 7, 2016), <https://www.voiceofsandiego.org/topics/science-environment/those-giant-tides-are-worse-than-ever-and-may-be-hint-of-whats-to-come/>

¹² California's Fourth Climate Change Assessment, San Diego Region Report, at 6 (2019) <https://www.energy.ca.gov/sites/default/files/2019-07/Reg%20Report-%20SUM-CCCA4-2018-009%20SanDiego.pdf>

¹³ U.S. Global Change Research Program, Fourth National Climate Assessment, Summary of Findings, *available at* https://nca2018.globalchange.gov/downloads/NCA4_Ch01_Summary-Findings.pdf.

and departures, much of which involves enjoyment, observation, or use of natural areas.

9. I also spend additional time outside because of my deep appreciation for and interest in nature. I am very concerned about the adverse impact of climate change on the wildlife, resources, and ecosystems that I study and routinely visit. If climate change causes adverse impacts to these natural systems, as is occurring now and will likely continue to occur, I expect to be personally harmed by being unable to observe these systems free of such impacts.

10. Climate change is already adversely impacting the natural systems that I value, including the oceans.¹⁴ For example, ocean acidification threatens to upset the ocean's delicate balance of marine life by harming those organisms that rely upon calcium carbonate to build their shells.¹⁵ This is negatively impacting both

¹⁴ See Susan Murphy, *Rising Acidity Threatens Marine Ecosystems Off of San Diego*, KPBS, (Nov. 19, 2013), <https://www.kpbs.org/news/2013/nov/19/ocean-acid-threatens-san-diego-marine-ecosystems/>

¹⁵ International Panel on Climate Change, *Understanding Global Warming of 1.5°C*, Chapter 3, Executive Summary, available at <https://www.ipcc.ch/sr15/chapter/chapter-3/> (“The ocean has absorbed about 30% of the anthropogenic carbon dioxide, resulting in ocean acidification and changes to carbonate chemistry that are unprecedented for at least the last 65 million years (high confidence). Risks have been identified for the survival, calcification, growth, development and abundance of a broad range of marine taxonomic groups, ranging from algae to fish, with substantial evidence of predictable trait-based sensitivities (high confidence).”); *see also id.* at 3.4.4.5 Ocean Acidification (“Organisms with shells and skeletons made out of calcium carbonate are particularly at risk, as are the early life history stages of a large number of organisms...”).

far-away coral reefs as well as sensitive organisms, like mussels, sea urchins and crabs in the tidal pools that I regularly visit with my children and with friends.¹⁶

One of the key findings of California's most recent statewide climate assessment is that ocean acidification and other ocean impacts caused by a changing climate are "transforming and degrading California's coastal and marine ecosystems."¹⁷ One

of the key findings from California's most recent statewide climate assessment is that ocean acidification and other ocean impacts caused by a changing climate are "transforming and degrading California's coastal and marine ecosystems."¹⁸

These impacts will worsen unless greenhouse gas emissions are reduced.

11. I am aware that EPA and NHTSA have issued two joint rules that, respectively, weaken the federal greenhouse gas and fuel economy standards for light-duty vehicles, and declare state greenhouse gas emission standards for vehicles and state zero-emission vehicle standards unlawful, attacking California's

¹⁶ U.S. Environmental Protection Agency, Effects of Ocean and Coastal Acidification on Marine Life, <https://www.epa.gov/ocean-acidification/effects-ocean-and-coastal-acidification-marine-life> (last updated Dec. 21, 2016).

¹⁷ California's Fourth Climate Change Assessment, Statewide Summary Report, at 58 (2019), <https://www.energy.ca.gov/sites/default/files/2019-07/Statewide%20Reports-%20SUM-CCCA4-2018-013%20Statewide%20Summary%20Report.pdf>.

¹⁸ California's Fourth Climate Change Assessment, Statewide Summary Report, at 58 (2019), <https://www.energy.ca.gov/sites/default/files/2019-07/Statewide%20Reports-%20SUM-CCCA4-2018-013%20Statewide%20Summary%20Report.pdf>.

well-established Clean Air Act authority to implement protective vehicle emission standards.

12. I understand that the transportation sector is the leading source of greenhouse gas emissions in the United States. Nearly 30% of the nation's greenhouse gas emissions come from the transportation sector.¹⁹ Within the transportation sector, light-duty vehicles are the largest contributors to greenhouse gas emissions, accounting for almost 60% of transportation-related climate pollution.²⁰

13. I understand that the California Air Resources Board projects that, even with its protective standards in place, light-duty vehicles will account for 23% of statewide GHG emissions in 2030.²¹

14. Without protective state and federal standards in place, climate-destabilizing pollution will significantly increase. This in turn will increase the negative impacts


¹⁹ Fast Facts on Transportation Greenhouse Gas Emissions, <https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions> (last updated July 16, 2019).

²⁰ Fast Facts on Transportation Greenhouse Gas Emissions, <https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions> (last updated July 16, 2019).

²¹ California Air Resources Board, Proposed Amendments to the Low-Emission Vehicles (LEV) III Greenhouse Gas Emission Regulation, at 2 (Sept. 28, 2018), https://ww3.arb.ca.gov/board/books/2018/092718/18-7-5pres.pdf?_ga=2.75791125.1650977375.1563834626-1026101495.1522858958

of climate change that are already affecting the natural resources and biological diversity that I treasure, impeding my ability to enjoy the ocean shore near my home.

I declare under penalty of perjury that the foregoing is true and correct.



Arthur P. Cooley

Executed on May 23, 2020, 2020

DECLARATION OF TRISHA DELLO IACONO

I, Trisha Dello Iacono, declare as follows:

1. I am currently a member of the Environmental Defense Fund (“EDF”) and have been since 2012. I also work as the National Field Manager with Moms Clean Air Force, a special project of EDF where I manage the field staff and volunteers from across the country to develop and deploy strategic plans to increase grassroots advocacy on key public health and environmental issues at the local, state, and federal level. I have worked with Moms Clean Air Force since 2013.
2. I support EDF’s mission and Moms Clean Air Force’s mission to protect the health and future of our children from climate change and dangerous air pollution because as a parent to four young children, I want them to have a safe and healthy world to grow up in.
3. I currently live in Mullica Hill in Gloucester County, New Jersey with my three young sons, ages fourteen, ten, and three, and newborn baby girl. We have lived at our current location for about a year, and lived in Haddon Heights in Camden County, New Jersey for two years prior to that.
4. From my work with Moms Clean Air Force I understand that in 2012, EPA established gradually strengthening national greenhouse gas emission standards for

passenger cars and trucks for Model Years 2017-2025 and the National Highway Traffic Safety Administration established gradually strengthening fuel efficiency standards for Model Years 2017-2021. I understand that New Jersey has adopted the Advanced Clean Cars program, as have 13 other states, which includes protective greenhouse gas emission standards and “Zero Emission Vehicle” or “ZEV” standards.

5. I am also aware that the current administration recently finalized rules that dramatically weaken the federal clean car standards for upcoming years and declare state greenhouse gas and ZEV standards unlawful, seeking to end states’ authority to enforce more protective ZEV and greenhouse gas emission standards.

6. I am aware that Gloucester County, New Jersey, where my family resides, is in nonattainment with the 2015 national health-based standard for ground-level ozone.

7. I understand that there is well-established scientific research linking ozone pollution with serious health problems such as respiratory disease, asthma attacks, and impaired lung function. I know that being outside during high ozone days can be dangerous for children and adults. But, in particular, I’m aware that ozone pollution poses more serious danger to children because their lungs are still developing and they spend more time outdoors than adults.

8. My children enjoy riding their bikes, playing soccer, and being outside or in our backyard with their friends. However, on days when ozone pollution is unsafe to breathe, I limit my children's outdoor activities, so they are not exposed to this harmful pollution.

9. I am also aware that carbon dioxide and other greenhouse gas pollutants are rapidly changing our climate.

10. I grew up in Southern New Jersey, where my parents farm over 5,000 acres of land. My children and I live about a five-minute drive away and will visit this farm several times each month. I have personally watched the impacts of climate change affect my parents' vegetable farming business. Increased heavy downpours lead to smaller crop yields and cause greater fungal growth, necessitating increased fungicide use. Higher temperatures entail increased water use and result in a reduced crop yield when daytime temperatures exceed 90 degrees for even short periods of time. Warmer temperatures and higher carbon dioxide concentration also contribute to an increase in crop disease, necessitating higher concentrations and more frequent spraying of toxic chemical pesticides. Not only does this increased pesticide use raise operating costs for the farm, it also creates greater health risks for my parents and the farmworkers who apply the pesticides, and for my children who want to enjoy eating the produce directly from the fields, as I once did as a

child. Now they have to check with my dad first to find out when he last sprayed, and cannot eat the produce if he sprayed too recently.

11. I hope that my children will be able to continue enjoying and, in the future, help operate our family farm. I am concerned that the impacts of climate change will negatively affect our family business and decrease the chances that my family and children can continue operating our farm in the future.

12. I am also aware from my work that climate change contributes to higher levels of ground-level ozone. I am concerned that the impacts of climate change will worsen Gloucester County's ozone levels and increase the frequency and severity of high ozone days when I must either keep my children indoors or expose their developing lungs to harmfully high ozone levels.

13. I am concerned that the administration's action weakening federal clean car standards and efforts to eliminate state authority for protective greenhouse gas and ZEV standards will lead to increased GHG and criteria pollution that will adversely impact my health and the health of my family. I am further concerned that my children and I will be less able to engage in the recreational activities that we enjoy because I must keep them inside more frequently to avoid harmfully high ozone levels exacerbated by the additional climate pollution and criteria pollution caused

by this rule. I am also concerned that the action will contribute to climate change that harms the operations and long-term future of my family's farm.

14. In addition, I am concerned that the administration's new rules will undermine my ability to buy the kind of car I want and need for my growing family.

15. Having experienced the way in which environmental pollution can fundamentally diminish the health and well-being of a family, it is deeply important to me that my family minimize its own contribution to dangerous air and climate pollution, for the sake of my own family and others.

16. This desire is particularly acute with respect to pollution from cars and trucks.

17. My family uses our two cars a lot. Because part of our family lives in New Hampshire, my husband and our children drive every other week from New Jersey to New Hampshire. We also use our cars regularly for day-to-day errands, work, and school events.

18. In December 2018, my husband and I determined that we needed to replace one of our two vehicles with a minivan to accommodate our growing family. We initially preferred the Toyota Sienna, but specifically decided to buy a Chrysler Pacifica because the Pacifica is the only minivan with an electric or plug-in hybrid model available. I want to own a zero-emission vehicle—*i.e.*, electric or plug-in

hybrid—both to reduce my contribution to air and climate pollution, and to save money on gas expenses. Consequently, my husband and I drove to New Hampshire from our New Jersey home to purchase a Chrysler Pacifica electric minivan after learning that a New Hampshire car dealership had one for sale.

19. The dealership informed us upon our arrival that the electric minivan was out of stock and repeatedly redirected our requests for an electric model, refusing to help us find one and instead pointing us towards the standard combustion Pacifica.

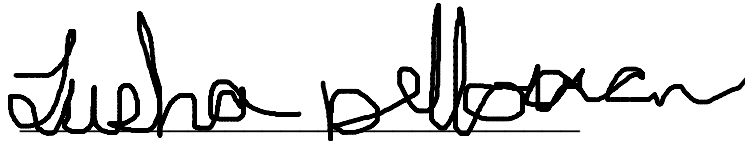
20. Needing a minivan as soon as possible, we ultimately were convinced by the dealership to purchase a standard combustion Pacifica. We are already dissatisfied with this car, largely because of its pollution impact, and have voiced this dissatisfaction to the dealership. We would like to replace this vehicle with a zero-emission car that fits our whole family at some point in the future, when it is financially viable given our outstanding loan on the car.

21. We also own a second family vehicle that does not fit our entire family. Because it cannot fit all of us at once, we anticipate needing to replace this vehicle in the next five years or even sooner. Ideally, we would also like to replace this car with a zero-emission minivan.

22. I understand that the recently finalized rule that declares state greenhouse gas and ZEV standards unlawful claims to block New Jersey's ability to implement and

enforce its ZEV standards, which would otherwise provide gradually strengthening incentives for the sale of zero-emission vehicles in-state. I am concerned that this rule, as well as the weakening of the federal standards, will reduce incentives for automakers and dealers to provide and sell low-emission vehicles, and specifically that fewer zero-emission vehicles—and fewer models of zero-emission vehicles—will be available for my family to purchase in the future. I am concerned that these rules will reduce dealerships' interest in helping my family buy a zero-emission vehicle.

I declare the foregoing is true and correct.



Trisha Dello Iacono

Dated: May 28, 2020

DECLARATION OF SHANA REIDY

I, Shana Reidy, under penalties of perjury, declare as follows:

1. I have been a member of the Environmental Defense Fund (EDF) since April 2018.
2. I currently reside in Seattle, Washington's Ballard neighborhood with my husband and two sons, who are aged seven and nine. We have lived in our current location since 2009.
3. My younger son suffers from Cornelia de Lange Syndrome, a genetic disorder that can cause a broad range of potential physical, cognitive, and medical challenges. According to the Cornelia de Lange Syndrome Foundation, the syndrome "typically affects: growth, with smaller body and head size; skeletal system, with smaller hands and feet or missing forearms and fingers; development, with delayed development, intellectual disability or learning disabilities; behavior, with ADHD, anxiety or autistic features; and internal body organs including the GI, cardiac, genitourinary and neurologic body systems."
4. In my son's case, he has been formally diagnosed with chronic lung disease, which makes him acutely sensitive to congestion and respiratory infections.
5. In addition, he suffers from severe sleep apnea because his airway is not properly developed.

6. He is entirely tube-fed because he has extreme oral aversion and hypotonia (reduced muscle strength), which means his chewing and swallowing are not well coordinated and he is at heightened risk of aspirating his food.

Sensitivity to Air Pollution

7. Because of my younger son's compromised medical condition, any respiratory infection has the potential to be life threatening. Every time he gets sick, even with a simple cold or fever, I fear he is going to die.

8. My younger son is prone to serious respiratory infections, experiencing them as many as three to five times per year. When he was younger, these respiratory infections would typically result in a stay in the hospital. Over the years we have learned how to manage his treatment better, such that now when he gets a respiratory infection, we typically keep him at home. We essentially replicate hospital care in our own home, maintaining a hospital-like setting with medical prescriptions and intensive care. This treatment comes at great disruption to our lives. Either my husband or I will stay up all night with my son managing his care, which can be a great disturbance as we both work.

9. Because these respiratory infections are potentially life-threatening and at minimum very disruptive to our family's day-to-day life, my family and I work very hard to reduce my younger son's exposure to factors that increase his likelihood of respiratory infections.

10. I have been told by my son's doctor that exposure to air pollution is one factor that will exacerbate his underlying health conditions, including his risk of developing a respiratory infection.

11. Many people may be less aware of the day-to-day air quality conditions where they live, but air quality and air pollution have an immediate impact on every aspect of my family's life. My family and I change our lifestyle and take a wide range of measures to reduce my younger son's exposure to air pollution and protect him from harm.

Wildfire Smoke

12. I understand from the Fourth National Climate Assessment that wildfires are expected to increase in the Northwest as a result of climate change.

13. I have noticed an increase in wildfire smoke impacting the Seattle-area over the past two to three years. Over these years, wildfire smoke reaching the Seattle area has been a regular occurrence in the summer months.

14. Wildfires cause serious air pollution issues that threaten my younger son's health, even when the site of the fire is far away from our home. For example, even when the wildfires are miles away in Canada, the smoke can reach the Seattle area.

15. As mentioned above, exposure to this smoke heightens my younger son's risk of a dangerous respiratory infection.

16. When wildfire smoke impacts the Seattle region, my family takes a wide range of efforts to protect my younger son's health by minimizing his exposure to the smoke. These efforts disrupt and harm my family's day-to-day and overall well-being.

17. When Seattle is afflicted with wildfire smoke, people who are respiratory-compromised, like my younger son, must stay inside. To keep my son safe, we never open our windows during these periods and we keep our house sealed up; it is stuffy and miserable.

18. In the summer of 2018, the wildfire smoke was so pervasive that my family installed an air filtration system in our home that we run constantly to help protect my son. When wildfire smoke reaches Seattle, we also continuously check our home's air ducts and make sure they are clean to maintain our indoor air quality.

19. We always keep my younger son indoors during these episodes when Seattle is impacted by wildfire smoke. This means that someone needs to stay home with him at all times; either my entire family must stay at home or we must split up for activities that involve going outside.

20. We avoid going to the park, or to the beach, to name a few of the activities we have to forego. My older son, in particular, often wants to engage in these activities. Either he must abstain, or my husband and I are forced to split up. For example, if my older son has a sports game, one of us will go with him and one of

us will stay at home with my younger son. As a result, we are less able to spend time engaging in the activities we would otherwise enjoy and less able to spend time together as a family.

21. My husband and I own a cabin more than two hours east of Seattle, east of the Cascades. We purchased this home in large part because the area typically has better air quality as compared to where we live in Seattle, such that the air is safer for our younger son to breathe. When we are at our cabin, because of the (usually) better air quality, we are able to relax and spend more time outdoors doing activities as a family, without constantly having to worry about keeping my younger son protected from air pollution.

22. We typically visit our cabin every weekend in the summer and whenever the weather is nice during the rest of the year. We intend to continue doing so in the future.

23. Whenever our cabin's air is impacted by wildfire smoke—as has become increasingly frequent in the last two to three years—we forego any visits to the cabin and miss out on this opportunity to relax and spend time together as a family. We instead stay in Seattle where we can keep our younger son inside with our home's air filtration system, which better protects him from poor air quality.

24. In the summer of 2018, we planned to vacation together as a family for five days at a lake in the mountains east of Seattle. Unfortunately, wildfire smoke

began impacting the area during our vacation. Due to the hazard that this smoke posed for my younger son's health, we ended up cutting our vacation short and returning two days early to Seattle.

25. Even for the generally healthy members of my family, all activity can be impacted during fire season because of the poor air quality. When wildfire smoke is particularly severe, I stop jogging, an activity that I enjoy, and my older son's sports practices are often cancelled. This can limit our whole family's activities during Seattle's summer, which otherwise is typically the nicest season of the year.

Worsening Air Quality

26. I understand from the Fourth National Climate Assessment that climate change will also worsen existing air pollution levels, in particular because increasing temperatures will lead to an increase in ground-level ozone or "smog" formation.

27. I also understand that heavy-duty diesel freight trucks transport gasoline and that diesel exhaust includes ozone-forming volatile organic compounds (VOCs).

28. Elevated smog levels also increase the risk that my son will develop a respiratory infection.

29. Because smoggy air increases his risk of a respiratory infection, my family and I similarly take extensive measures to minimize and protect him when Seattle smog levels rise.

30. As with our efforts to protect my younger son from the impacts of wildfire-induced poor air quality, these efforts are disruptive and affect our whole family.

31. When air quality is poor, we keep my younger son inside as much as possible, with the windows and doors shut.

32. As described above, we all forego outdoor activities, or are forced to split up as a family.

33. When we are on the road, we can get stuck in traffic either next to or behind a freight truck. Sometimes my younger son will be in the car as we are in close proximity to or trapped behind a heavy-duty truck with particularly high diesel exhaust emissions. I can smell this exhaust as it permeates our car. At times like these I am terrified for his health. I take immediate steps to get out of the traffic as quickly as possible, move away from the truck, get off the road, and get fresh air into the car.

Healthcare Disruption

34. Poor air quality from wildfire smoke and smog has impacts beyond just increasing my son's risk of a dangerous respiratory infection and disrupting my family's activities.

35. My younger son's condition requires serious healthcare interventions on an occasional but regular basis. For example, in the next year he needs to have major

surgery to address his worsening sleep apnea by improving his airway. This surgery is vital because his apnea leads him to experience long pauses in his breathing that cause his oxygen saturation levels to drop, which affects his ability to concentrate and his sleepiness during the day. Moreover, I am aware from scientific literature that over the long term these impacts are linked to pulmonary hypertension and symptoms of Attention Deficit Disorder and Attention Deficit Hyperactivity Disorder.

36. Due to my son's heightened risk of respiratory complications, his surgery must be scheduled during the summer, when cold and flu season is over. And because of complex nature of his surgery and his condition generally, the surgery will need to be scheduled at least two months in advance. My husband and I will have to make plans to miss work to ensure that we can care for him for several days afterwards, when his health will be particularly precarious.

37. I am deeply concerned that whenever this upcoming surgery is scheduled, it may ultimately be scuttled if Seattle experiences poor air quality due to wildfire smoke or elevated smog levels. It will be too risky for my son's health to go ahead with major surgery if Seattle's air quality is too poor, even with all the steps we take to minimize our son's exposure to poor air quality. If his surgery is cancelled, it will likely mean that this important and needed surgery is delayed for a full year

until the following summer because of the need to schedule his surgery during the summer and months in advance.

38. It is likely that my son will need to have further surgeries in the future to manage his condition and that they will similarly need to be scheduled during the summer. I am deeply concerned that worsening impacts of climate change will increase the likelihood of summertime wildfire smoke and/or smog, further complicating and disrupting our ability to manage and carry out any future surgeries.

39. More generally, I worry about my son's healthcare as my husband and I age. As described above, my husband and I together implement an extensive range of measures to protect our son and minimize his exposure to air pollution. These measures will be harder to implement as we get older, especially if we ultimately need to place our son in a care facility. I am deeply concerned that climate change will worsen Seattle's air quality in the future, when my husband and I may be less able to protect our son from poor air quality.

Heat

40. Heat is another factor that can significantly affect my younger son's health.

41. I understand from the Fourth National Climate Assessment that average temperatures in the Northwest are predicted to increase with climate change and, in

addition, heat waves are expected to become longer, more frequent, and more severe.

42. When temperatures are elevated in Seattle, my family takes additional precautions to protect my younger son's health. We pay careful attention to his hydration levels on hot days and have to make sure to calibrate his tube-feeding regime, since that is his only source of fluids.

43. When the heat is accompanied by dryness—which is typical in Seattle—the weather exacerbates his eczema and we have to take careful measures and apply specific lotions to help combat this condition.

44. Typically, we will keep my younger son inside when it is particularly hot out, and my husband or I will take our older son to do activities outside while the other will stay inside with our younger son, again splitting our family up. When we do take our younger son outside, we have to take extra precautions to make sure that we keep him shaded and he does not get overheated.

Conclusion

45. I understand that the National Highway Traffic Safety Administration and Environmental Protection Agency recently finalized rules that dramatically weaken federal clean car standards and that declare state greenhouse gas standards for vehicles and state zero-emission vehicle standards unlawful. I am deeply concerned that these new rules will lead to increased greenhouse gas emissions

from passenger cars and trucks, and increased diesel exhaust emissions from the freight trucks that carry gasoline.

46. Increased greenhouse gas emissions will lead to increased likelihood of wildfires, increased temperatures and likelihood of heatwaves, and poorer air quality. Increased diesel exhaust emissions also contribute to poorer air quality. As a direct result, my younger son's fragile health will be put at risk, and my family and I will have to take even more steps to protect him from poor air quality and heat.

I declare that the foregoing is true and correct.

Executed on: May 25, 2020



Shana Reidy

DECLARATION OF KATE ZALZAL

I, Kate Zalzal, declare as follows:

1. I am a member of the Environmental Defense Fund (EDF) and have been a member since 2012.
2. I reside in the town of Lyons, Colorado, with my husband and three children.
3. We recently welcomed our youngest child to the family in January 2018, and as a mother of three, I need a car that will fit myself, my husband, and all of our children. I also use my vehicle for a variety of purposes that often require me to transport multiple passengers. One of my children has attended dance classes, another plays on a soccer team and goes to practices, and in the summer both of my older children often participate in summer camps. I drive our kids to these activities and often participate in carpools with other families who likewise have children in these activities.
4. My family also travels around the Colorado mountains in the summertime and wintertime for camping trips and other activities. We regularly visit my parents, who live in the mountains between Lyons and Estes Park. Driving to these places makes four-wheel drive, all-wheel drive, or other similar features valuable during both the summer and winter.

5. Within the last two years, we replaced our four-wheel drive vehicle, which had broken down, with a vehicle with similar capabilities that is lower polluting and more fuel efficient. We use this vehicle for family trips to the mountains in the summer and the winter. Our family also has a second vehicle, purchased before we had children, that no longer fits our whole family and so we are planning to replace it within the next five years.

6. One of my highest priorities in shopping for a new car is high fuel efficiency. Because I often have to drive to surrounding towns, it is important for me to save on fuel costs by driving a car that gets better mileage than my current vehicle.

7. I am also very concerned about the climate pollution emitted by passenger vehicles, and it is important to me to own a car that releases fewer of these harmful emissions.

8. When we replace our smaller vehicle, we intend to purchase an electric vehicle that will fit our family and that we will use primarily for transportation around town and for the frequent trips we take to surrounding communities. Accordingly, I am planning to purchase an electric minivan, SUV or similar vehicle. I intend to purchase an electric vehicle because it has zero tailpipe emissions, it is substantially less costly to operate than a gasoline powered vehicle and likewise has fewer maintenance and other associated costs. Colorado has also

recently extended its state tax incentives for electric vehicles purchases through 2025, which, coupled with federal incentives, makes the financial savings associated with purchasing an electric vehicle even more attractive for me and my family.

9. Since I started shopping for a new car, I have realized that there are currently not many options for electric minivans or SUVs. For instance, there is only one plug-in hybrid minivan currently available on the market—the Chrysler Pacifica—and there are currently no, similar all-electric vehicles available for purchase. In addition, I am aware that the electric vehicle offerings for sale in other states are not always available in Colorado, further limiting electric vehicle options for me and other Colorado consumers.

10. At the same time, I am aware that a substantially greater number of electric vehicles will be available for purchase over the course of the next 5 years, when we intend to purchase a new car. These include some all electric minivans, like the VW ID Buzz and other all electric vehicles that would fit my family and meet our needs.

11. I understand that this rapid expansion of electric vehicle model availability is being driven by changing market dynamics and reduced battery prices in combination with policies, most notably the state of California's standards for zero emission vehicles ("State Zev Standards"), which are part of the

California Advanced Clean Car Program (“State Clean Car Standards”). These State ZEV Standards require automakers to generate a certain number of credits, driven by their sales of electric vehicles in California and other states that have adopted the State ZEV Standards.

12. I am also aware that Colorado has recently adopted the State ZEV Standards and that automakers would have to begin complying with those requirements for model year 2023 vehicles. When it adopted the State ZEV Standards, Colorado found that these Standards would require that automakers make additional electric vehicles available for sale in Colorado, beyond those that would be available absent the Standards. I understand that automakers supported adoption of State ZEV Standards in Colorado and indicated their view that the Standards would result in accelerated EV model availability in the state.

13. I am aware that the Environmental Protection Agency and the National Highway Traffic Safety Administration previously adopted Clean Car Standards, which require automakers to reduce greenhouse gas emissions and improve the fuel efficiency of new vehicles sold in the United States. I understand that these standards are based on a vehicle’s “footprint,” meaning that for each class of vehicles—including those we are considering purchasing—the standards require emission reductions and improvements in fuel economy over time.

14. I am aware that in a recent joint rulemaking, NHTSA finalized a regulation stating that California is preempted from exercising its unique authority under the Clean Air Act to set more-protective vehicle emission standards through a waiver issued by EPA.¹ Furthermore, I am aware that in the same joint rulemaking, EPA withdrew the Clean Air Act waiver granted to California that allows the state to set protective vehicle emission standards. I understand that the combined effect of these EPA and NHTSA actions would be to invalidate the State Clean Cars Program, including the State ZEV Standards. This, in turn would prevent Colorado from implementing these standards that are distinct from and more protective than the federal rule.

15. I am also familiar with the recent joint EPA and NHTSA rule that dramatically weakens the federal greenhouse and fuel economy standards for passenger cars.²

16. As a Colorado resident who intends to purchase a new electric vehicle in the next 5 years, I am concerned that these actions will harm me by limiting the availability of electric vehicles that meet my and my family's needs. Specifically, I am concerned that eliminating these standards will limit my ability to purchase an EV by removing important drivers supporting increased EV model availability in

¹ 84 Fed. Reg. 51,310 (Sept. 27, 2019).

² 85 Fed. Reg. 24,174 (April 30, 2020).

the coming years. Also, by blocking Colorado's ability to implement State ZEV Standards, the NHTSA and EPA actions will likely return the state to a place where Colorado consumers do not have access to EVs that might otherwise be available in different states across the country.

17. I declare that the foregoing is true and correct.

Executed May 28, 2020


Kate Zalzal

Declaration of Douglas Snower

I, Douglas Snower, state and declare as follows:

1. This declaration is based on my personal knowledge, information, and belief. I am over the age of eighteen years and suffer from no legal incapacity. Statements in this declaration expressing an opinion reflect my personal opinion and judgment on the matter.

2. I am a resident of Chicago, Illinois.

3. I am currently a member of the Environmental Law and Policy Center (“ELPC”). I first became an ELPC member in 2011.

4. I am the President and Founder of Green Wheels Inc. (“Green Wheels”), which is located in Chicago and incorporated in Illinois. Green Wheels is licensed as an auto dealer by the state of Illinois. I founded Green Wheels in 2011.

5. Green Wheels is an environmentally conscious auto dealership and service business located near downtown Chicago. Green Wheels specializes in selling, servicing, repairing, and renting electric, hybrid, and environmentally friendly vehicles. Green Wheels also installs and operates electric vehicle charging stations in and around Chicago. Green Wheels’ customers include individuals, businesses, schools, religious institutions, and governmental entities. All of Green Wheels’ services and products are geared toward the goal of promoting clean and efficient transportation.

6. The success of Green Wheels’ business has been premised on the increasing availability of, and demand for, electric and hybrid vehicles, as well as the steady improvement in clean car technology and products. I believe that these improvements have been driven in substantial part by governmental standards requiring reduction of vehicle greenhouse gas (“GHG”) emissions and mandating production of zero-emission vehicles (“ZEVs”), which can include battery

electric, plug-in hybrid, and hydrogen fuel cell vehicles. I understand that the State of California has led this regulatory effort, based on its waiver under the federal Clean Air Act to set its own emissions standards, which ten other states plus the District of Columbia have elected to follow under Section 177 of the Clean Air Act.

7. Because California and these other states represent such a large part of the national market, the California GHG and ZEV standards have made more and better electric, hybrid and environmentally friendly vehicles and associated technology available in all states, including Illinois. The California standards have thus expanded and improved the national market for the types of vehicles Green Wheels sells, rents, and services in Illinois and have bolstered Green Wheels' business.

8. I am familiar with the Trump administration's SAFE Vehicles Rule ("SAFE Rule"), which the Environmental Protection Agency ("EPA") and the National Highway Traffic Safety Administration ("NHTSA") recently finalized in two parts. I understand that among other things, Part One of the SAFE Rule states that NHTSA is declaring the California waiver to be preempted by federal law. This part of the SAFE Rule also purports to block other states from following California's regulations. Part Two finalizes new and amended GHG and Corporate Average Fuel Economy ("CAFE") standards for cars and light duty trucks that are far weaker than current standards.

9. Part One of the SAFE Rule promises to have a direct and detrimental effect on Green Wheels' business. Without the state ZEV mandates, automakers can be expected to manufacture far fewer and less varied types of electric, hybrid, and environmentally friendly vehicles, which would slow the technological progress that has made them increasingly attractive to consumers. Automakers will also have less incentive to market and educate customers about electric, hybrid,

and environmentally friendly vehicles, which would disincentivize them from working with Green Wheels to promote ZEV sales.

10. As a result of these changes that will naturally flow from Part One of the SAFE Rule, Green Wheels will have fewer and less varied types of vehicles to offer customers and fewer customers will seek to buy or rent vehicles from us, which would depress the company's sales and rental business. This would, in turn, depress Green Wheels' service and repair business. It would also reduce the demand for new charging stations and reduce the revenue Green Wheels can earn from existing charging stations.

11. I understand that California and a number of other states have filed their own lawsuit challenging Part One of the SAFE Rule. These states include not only the current Section 177 states but also numerous others, including Illinois. This indicates that Illinois has an interest in becoming a Section 177 state if Part One of the SAFE Rule is invalidated. If that occurred, it could significantly boost Green Wheels' business by increasing the demand for, and publicity around, electric, hybrid and environmentally friendly vehicles in the Chicago region. By the same token, if Part One of the SAFE Rule survived legal challenge, the harm to Green Wheels' business would be even greater given Illinois' apparent interest in becoming a Section 177 state.

12. As the owner of Green Wheels, I stand to lose money if, as I expect, my company loses business due to Part One of the SAFE Rule. The threat to Green Wheels' business, and to my financial stake in the company, would be averted if Part One of the SAFE Rule is declared invalid so that California and other states can continue to enforce their ZEV mandates, which will continue to expand and improve the national market for the types of vehicles Green Wheels sells, rents, and services.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge, information, and belief.

Executed on May 12, 2020



Douglas Snower

Declaration of Laurence B. Stanton

I, Laurence B. Stanton, state and declare as follows:

1. This declaration is based on my personal knowledge, information, and belief. I suffer from no legal incapacity. Statements in this declaration expressing an opinion reflect my personal opinion and judgment on the matter.

2. I am a member of the Environmental Law and Policy Center, and have been a member since 2008.

3. I live at 515 Myrtle in Beverly Shores, Indiana. I live approximately one block away from the Lake Michigan beach. Beverly Shores is surrounded by Indiana Dunes National Park, which contains a variety of different ecosystems and extensive plant and animal biodiversity. My wife lives with me. We are both 66 years old. We have lived in Beverly Shores for 30 years.

4. I have a consulting business and work out of my home.

5. I spend a lot of time outdoors. Among other things, I garden, run, visit the beach a block from my house, sail on Lake Michigan, kayak, and cross-country ski.

6. I am concerned about the impacts that climate change is having and will have on the area in Northwest Indiana where I live and recreate. I try to keep up on news and science related to climate change. I've read the Environmental Law and Policy Center's report, *An Assessment of the Impacts of Climate Change on the Great Lakes*, which discusses climate change's impact on regional precipitation, invasive species, and extreme weather, among other things. What I've read about climate change confirms my worries that climate change is already negatively affecting the area in which I live and that if climate change increases, there will be even more harms to the environment in my area.

7. Climate change leads to warmer winters, which means that there are fewer big snows that create good conditions for cross-country skiing. It seems to me that recently there are a lot fewer good days each winter to cross-country ski in Indiana Dunes than there once were.

8. I am the immediate past president of the Beverly Shores Environmental Restoration Group. I've been on the board for 5 years. One focus of the Environmental Restoration Group is to remove invasive species and encourage people to plant native species. The Environmental Restoration Group recently published an updated edition of a book, *A Beginner's Guide to the Plants of the Indiana Dunes*, which educates people on the native and invasive species of the region in an effort to encourage them to plant native species. This recent edition was an update to the 2008 edition of the book. We've also recently produced a Dune Plants app that provides information on both native and invasive plants found in the Indiana Dunes.

9. The Environmental Restoration Group has removed numerous invasive species over the years, including Oriental Bittersweet and Burning Bush. The Group spends approximately \$3,000 dollars each year removing the invasive Tree of Heaven.

10. The Environmental Restoration Group recently found invasive kudzu growing on private property in Beverly Shores, and paid to have it removed. Kudzu has overrun parts of the southern United States, devastating local plant communities, and the restoration group and local environmental experts we talked to were stunned that we found kudzu growing here.

11. Climate change increases the spread of invasive species and makes native species more vulnerable to being crowded out by invasives. When invasive species become a monoculture, they kill the native species. I am worried that as climate change increases, new invasive species will spread into Northwest Indiana, and existing invasive species will gain a stronger foothold,

harming the native biodiversity of the unique Indiana Dunes area. If this happens, the Environmental Restoration Group will need to spend even more money fighting invasive species.

12. Many of the invasive species in the area are also “deer candy,” and contribute to the spread of deer in the area, which is a major concern. The Environmental Restoration Group used to perform a deer cull, which the National Park now performs. Before these deer were effectively managed, the understory of the woods was essentially all gone because it was eaten by the excessive deer population.

13. The Shirley Heinze Land Trust recently installed kayak launches on the east branch of the Little Calumet River. These launches were unusable for much of summer 2019 and early spring 2020 because the Little Calumet River has been so high. I’m aware of the high water levels because I follow the Northwest Indiana Paddling Association’s Facebook page, which has been documenting the high water levels and the problems for paddlers on the Little Calumet, and because I often drive by the Little Calumet and have seen the high water levels myself.

14. I own a kayak, and looked forward to using it on the Little Calumet in summer 2020. High water levels, however, prevented me from doing so many days last summer and this spring that I intended to go kayaking.

15. Climate change is causing increased heavy precipitation in the Midwest. I believe that the recent high river levels in Northwest Indiana are partially attributable to increased precipitation caused by climate change. I am concerned that climate change will increase threats to water quality in the area because warmer water temperatures and increased run off from more frequent heavy storms caused by climate change will degrade water quality.

16. Lake Michigan water levels have increased to record levels. A section of Lake Front Drive, which runs along Lake Michigan shoreline in Beverly Shores, has been closed because it

is literally falling into the lake and the town of Beverly Shores just completed a \$5 million bond sale to fund erosion protection. The beaches in Beverly Shores are gone. My property taxes will increase for the next 20 years as a result of the bond issue and the value of my home could decline because of loss of the beach.

17. I sail on Lake Michigan and the high water levels are also limiting sailing opportunities. The harbor in South Haven is closed for summer 2020 and docks at other harbors are underwater, making it impossible to use them.

18. As climate change accelerates, high water levels and impaired water quality will diminish my opportunities for recreation on the rivers and lakes in Northwest Indiana.

19. The Beverly Shores area's biodiversity and its proximity to the beach and to outdoor recreation opportunities area is why we live here. If climate change increases the spread of invasive species, decreases water quality, decreases biodiversity, and diminishes the recreational opportunities in the area, the value of my property will decrease because the area will no longer be such a desirable place to live.

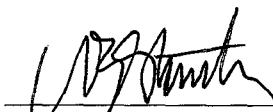
20. I am concerned that the regulatory actions recently taken by the National Highway Transportation Safety Administration (NHTSA) and the Environmental Protection Agency (EPA), which purport to prevent states from setting vehicle greenhouse gas emissions standards and imposing zero-emission vehicle mandates (Part One of the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule"), will contribute to increased greenhouse gas emissions and increased climate change. I am also concerned that regulatory actions weakening the federal vehicle fuel efficiency standards and greenhouse gas emissions standards (Part Two of the SAFE Rule) will similarly contribute to climate change.

21. Because of our concerns about climate change and the environment, my wife and I have decided that in the future we will buy only electric or hybrid cars. We plan to buy our next car in 2020, to replace our current car, and anticipate buying another car in 2023.

22. I am concerned that the NHTSA and EPA actions in the Part One and Part Two SAFE Rules weakening federal emissions standards and purporting to revoke state authority to set stricter emissions standards or mandate zero emissions vehicles will lead to decreased availability of electric and low-emission cars and increase prices for such cars that are still available. This would hurt me as a consumer by decreasing the range of cars my wife and I will have to choose from and by increasing the price we will have to pay for a car.

23. I support the Environmental Law and Policy Center's efforts to ensure that the federal government does not improperly revoke states' ability to set greenhouse gas emission standards and zero-emissions vehicle mandates and does not weaken the federal vehicle emissions and fuel efficiency standards.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge, information, and belief. Executed in Beverly Shores, Indiana on May 21, 2020.



Laurence B. Stanton

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

UNION OF CONCERNED
SCIENTISTS,

Petitioner,

v.

NATIONAL HIGHWAY TRAFFIC
SAFETY ADMINISTRATION,

Respondent.

No. 19-1230
(and consolidated cases)

DECLARATION OF RONALD ROTHSCHILD

I, Ronald Rothschild, state and declare as follows:

1. I am a member of the Natural Resources Defense Council (NRDC). I joined the organization as a member in October 2016 to support its work protecting the environment and public health and reducing our dependence on fossil fuels.

2. I live in Greenwich, Connecticut, in Fairfield County in the southwestern corner of the state. Air quality is poor and violates federal ozone standards throughout Connecticut, but the southwestern portion of the state where I live suffers from an even more severe ozone problem. The American Lung Association rates Fairfield County an “F” for ozone pollution, and the county is within the New York City metropolitan area, which the Association regularly ranks as one of the most ozone-polluted regions in the country. Ozone can create and exacerbate respiratory problems.

3. Because cars and other motor vehicles emit ozone precursors, they are a major contributor to ground level ozone formation. Their emissions contain other harmful pollutants as well, such as greenhouse gases that are a major contributor to climate change. Climate change causes many harmful human health impacts, including making dangerous ozone smog conditions worse, because ground level ozone forms more easily when air temperatures are higher.

4. My home is about a quarter mile from the Merritt Parkway, a heavily travelled state highway. Tens of thousands of vehicles travel this stretch each day. I have lived in my house for the past seven years. I am close enough to the Merritt Parkway to hear the traffic if I am outside my house.

5. About three years ago, I was diagnosed with throat cancer. I had a golf-ball sized tumor removed from my tonsil and went through months of radiation therapy afterwards. It was a very difficult treatment process, physically and emotionally. Although I survived the throat cancer, I still suffer from the physical effects of radiation treatment. I have scarring and muscle stiffness in my neck, xerostomia (lack of saliva), and I find it harder to enjoy the food and drinks I love, like red wine and chocolate.

6. The experience has made me think more about the potential health risks of living close to a busy highway. I have become wary of the health risks from exposure to air pollution caused by fuel combustion in automobiles.

7. I have also long been concerned with the dangers posed by climate change, which I view as the number one issue facing society. Further, I recently became a new grandfather and am increasingly worried about the harmful effects that climate change will visit upon me and my family.

8. Even before my illness, I was passionate about clean cars and cleaning up our country's driving habits. I strongly support government policies—such as emission standards, fuel economy standards, and mandates to

sell electric vehicles—that encourage automakers to implement technology that reduces the combustion of fuel and associated emissions of dangerous air pollutants. These standards incentivize automakers to innovate and develop cleaner cars and trucks, as well as to try to sell cleaner cars to consumers.

9. I purchased my first Honda Civic hybrid in 2003. In 2006, I upgraded to another Honda Civic hybrid, and I purchased a third Honda Civic hybrid for my daughter in 2011.

10. My 2006 hybrid was one the best cars I've ever owned. It now has 187,000 miles on it, and still runs like a top. When I drive, I can get around 40 miles to the gallon.

11. Although I liked my hybrid Civics, I promised myself that I would never buy another fuel-combustion vehicle (or internal combustion engine of any type) for as long as I breathe. And so, at the beginning of this year, I purchased a Tesla Model 3 electric car.

12. The Tesla was one of the few full battery-electric vehicles available on the market with a “rated” travel range of at least 250 miles. I ultimately chose the Tesla from among the limited options because of its size, range, and U.S.-based manufacturing, but I had to forego characteristics and features commonly available to choose from in the combustion-powered vehicle market. Things as simple as a hatchback with decent cargo space (for

letting my two large dogs in and out of the car) are hard to come by in the battery electric vehicle market.

13. It is important to me, personally, that government policies continue to promote the development and marketing of improved electric vehicles. An expanded electric vehicle market will also help broaden electric car offerings (more hatchbacks, for example) and bring down their purchase price. I would personally benefit from such policies and developments. I intend to replace my wife's current vehicle with a long-range electric vehicle with a useful hatchback as soon as an affordable and acceptable model becomes available. And when it is time to replace my current vehicle, I intend to again purchase an electric vehicle and it is important to have a wider range of options to choose from.

14. I understand that the EPA sets federal emission standards for new vehicles and that the National Highway Transportation Safety Administration also sets federal fuel economy (CAFE) standards for new vehicles. Until recently, these agencies' standards required automakers to make meaningful improvements to the average greenhouse gas emissions and fuel economy of the new vehicles they bring to market each year. I further understand that California has set stronger state standards, and that other states, like my home state of Connecticut, have adopted California's standards. I understand, for example, that many of these states require automakers to offer for sale a

minimum number of zero emission vehicles, like battery-electric vehicles, each year. I strongly support all these standards.

15. It is apparent to me that stronger emission and fuel economy standards logically will lead automakers to develop and sell cleaner cars and trucks than they otherwise would. In turn, those cleaner vehicles emit less of the harmful air pollution that leads to health problems, ozone formation and climate change.

16. I also understand that automakers who fail to meet EPA and NHTSA standards can buy credits from other automakers who exceed those standards, and that credits become more valuable when standards are tougher, which helps incentivize the introduction of new electric vehicles into the market. Electric vehicle manufacturers have said that they rely on strong standards and credit sales as part of their business plans for developing and introducing new electric vehicles.

17. I understand that EPA and NHTSA have recently issued rules that would roll back and weaken preexisting federal greenhouse gas emission standards and fuel economy standards for new vehicles. I also understand that these agencies have issued rules that seek to block California from maintaining stronger standards, including requirements for zero emission vehicle availability, which would in turn prevent Connecticut and other states from following suit. I strongly oppose all of these efforts. The agencies are bizarrely out of sync

with scientific data and public opinion on our environmental crisis and our desires for innovative and ecological vehicles.

18. Unless and until the agencies' actions are reversed, they will result in increased emissions of air pollutants from the vehicles that travel the highway near my home. They will also result in increased emissions of greenhouse gases from vehicles across the country that all contribute to climate change. And, by reducing the incentives for automakers to invest in fuel-efficient technology and introduce new electric vehicles, they will reduce my options when I and my family search for electric vehicles to purchase in the coming years.

19. By contrast, if the stronger federal standards are reinstated, and/or if California and Connecticut are able to set stronger standards, automakers will once again have greater incentive to invest in fuel-efficient technology and introduce new electric vehicles onto the U.S. market.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief. Executed on May 27, 2020, in Greenwich, Connecticut.



Ronald Rothschild

DECLARATION OF ANN LEONARD

1. My name is Ann Leonard. I live in Berkeley, California.
2. I am a member of Public Citizen, Inc., and a member of the Board of Directors of Public Citizen Foundation, Inc. I am also the Executive Director of Greenpeace USA, and an author and filmmaker.
3. I am committed to attempting to transform our society from one focused on wasteful consumption to one that emphasizes sustainability and protection of the environment. Increasing the availability of consumer products with reduced impacts on the environment—including climate-change impacts—is critically important to the achievement of that objective. I am a member of Public Citizen because it seeks to advance my goals and pursue consumer and environmental interests through its advocacy efforts.
4. I currently own a 2012 model-year automobile, one of two cars that I have purchased in my lifetime. I intend to replace it sometime in the next five to six years, preferably in the next year or two if I am able to find the right car. I plan to purchase an electric vehicle and have installed a rooftop solar system on my house that produces 150% of the electricity needed to operate my home so that it will also

support an electric car's charging needs. However, in two years of searching, I have not yet found the right electric car for my needs, which include space for my dog and for climbing gear, long-distance range, and four-wheel drive. I frequently consult with EV experts and research available vehicles on the internet, but I am still looking for one that meets our needs.

5. For these reasons, I have a strong interest in initiatives that increase the availability of electric vehicles to consumers like me and foster a greater range of choices of such vehicles in the marketplace. Government actions that reduce or eliminate requirements that manufacturers include electric vehicles in their fleets will harm me by limiting my options to choose the most appropriate electric car for my needs.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on June 15, 2020.



Ann Leonard

DECLARATION OF ROBERT WEISSMAN

1. My name is Robert Weissman. I am President of Public Citizen, Inc.

2. Public Citizen is a non-profit consumer advocacy group that represents the interests of its members on a wide range of issues before administrative agencies, courts and legislatures. Public Citizen has long been involved in regulatory issues involving the automobile industry, including issues related to emissions standards regulated by the Environmental Protection Agency (EPA) and the State of California, as well as matters falling within the regulatory authority of the National Highway Traffic Safety Administration (NHTSA), such as fuel economy and motor vehicle safety. Public Citizen's organizational mission includes advocating for the interests of its members in the availability of clean, safe, and economical motor vehicles.

3. Public Citizen has tens of thousands of members nationwide, and a great many of them purchase new automobiles in any given year.

4. California's automobile emissions standards require substantial year-over-year decreases in greenhouse gas emissions for automobiles produced in model years 2021 to 2025 and thus would

require automakers to provide a wider range of lower-emission vehicles than they would without those standards in place. California also requires automakers to include zero-emission vehicles, including electric cars, in their fleets, and its standards thus enhance the availability and range of choice of electric vehicles in the marketplace. These standards protect the interests of consumers in California and other states that have adopted them, including thousands of Public Citizen members, in the availability of a broad selection of low- and zero-emission vehicles. Such vehicles are important to consumers, including Public Citizen members, who wish to purchase vehicles that will contribute less to global warming than higher-emission vehicles.

5. EPA's and NHTSA's actions declaring the California standards to be preempted by federal law threaten consumer interests, including the interests of Public Citizen's members, protected by the California standards. EPA's and NHTSA's actions will allow automakers to produce a mix of vehicles including more higher-emission and correspondingly fewer lower-emission and zero-emission vehicles to serve the market in California and other states. That result directly affects interests of Public Citizen members and other consumers, and causes

them injury, by reducing their ability to choose from among a broad range of low-emission and zero-emission vehicles when purchasing a new car.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on June 15, 2020.



Robert Weissman

DECLARATION OF KIM FLOYD

I, Kim Floyd, declare as follows:

1. I am over 18 years of age and competent to give this declaration. I have personal knowledge of the following facts, and if called as a witness could testify competently to them.

As to those matters which reflect an opinion, they reflect my personal experience, opinion and judgment on the matter.

2. I live in Palm Desert, California, in Riverside County.

3. I am a member of the Sierra Club and have been for 30 years. I joined the Sierra Club to protect the environment, plant and animal species. I am currently the Conservation Chair for the San Geronio Chapter which covers Riverside and San Bernardino counties, and have served in that position for eight years. As Conservation Chair, I address a myriad of issues, including these two counties' bad air quality and environmental issues in the Salton Sea. I am also part of the Sierra Club Desert Committee which focuses on protecting desert areas in Southern California. Air quality is a significant issue for our chapter.

4. I am concerned about climate change for many reasons. Climate change is altering the living environment for humans and species that I am working to protect here in the desert. The species I watch in particular include the desert tortoise, the horned toad lizard, the Joshua tree and many other plant species, some not yet even catalogued, and I have observed and studied them for many years. I frequently go hiking to visit, observe and enjoy these species in Joshua Tree National Park, the Chocolate Mountains and the Mojave Preserve, all in the vicinity of where I live. These activities give me great aesthetic enjoyment, and I have firm plans to continue my visits, observations and studies throughout this year and hopefully for many years to come. The science is clear that these and other species are being directly and negatively affected

by climate change. The Joshua tree itself is projected to become extinct in the Joshua Tree National Park within the next 30 to 40 years through extreme weather conditions unless greenhouse gas emissions are reduced. The impact of climate change on this natural environment and its many species makes me anxious, and I fear that I will soon be unable to enjoy observing and studying them.

5. Climate change is also exacerbating the poor air quality where I live. Greenhouse gases help form ground-level ozone, brings increased temperatures and is now causing very cyclical and atypical rain events. The patterns for rain in the desert have changed significantly over recent years; we now have heavy rainfall all at once, instead of small amounts of rain multiple times during the year. These large rain events cause dangerous floods in our area once or twice a year. Though some flooding is normal in desert, the heavy rainfall we now experience causes much more damage and can severely erode the land and harm plant species.

6. The poor air quality in our area is in large part the result of emissions from the heavy traffic on our roads. Fossil fuel-driven vehicles emit large and fine particulate matter, nitrous oxides and sulfur dioxides, along with greenhouse gases; they foul the air and are terrible for the health of our communities, especially those with asthma.

7. I am particularly concerned about the role of the transportation sector in causing climate change and unhealthful air. In California, we already have significant air quality problems, including where I live and in adjacent areas, much of it caused by vehicle emissions. The pollution from vehicles has gotten worse over time and is exacerbating air quality issues, including ozone and particulate matter pollution. Riverside County is listed as a nonattainment area for these pollutants under the National Ambient Air Quality Standards, meaning that ozone and particulate matter levels here are unhealthy.

8. The poor air quality in Riverside County impairs my enjoyment of outdoor recreational activities. I have been hang gliding twice a week between the months of May and November since 1992 and have firm plans to continue to do so for as many years as possible. The poor air quality is obvious from high in the air. While hang gliding, I can see the darkness from the large amounts of pollution in the air, and it obscures the views. This haze is visible up to about 5,000 feet above sea level. The aesthetics of hang gliding are significantly affected by air pollution, and I am very concerned and troubled that things will only get worse if pollution from vehicles isn't significantly controlled, and that I may have to stop this activity in the future because the air quality will not improve or get even worse.

9. I also feel a tightness in my lungs while breathing in the afternoons and evenings near the City of San Bernardino. When I can see and feel that the air quality is bad here in the desert, I stay indoors in order to avoid triggering tightness in my lungs, but I cannot always prevent this from happening. I am also concerned about my grandchildren, and future generations broadly, because they have been living with poor air quality their whole lives. I worry that they will continue having to live with poor air quality and poor health outcomes unless we make drastic changes to reduce emissions from the transportation sector by cleaning up emissions from automobiles and light trucks.

10. I am very interested in making electric vehicles more widely and readily available for purchase so that both greenhouse gas and other harmful pollution from vehicles will be reduced and eventually stopped. I know that California has set a mandate for automakers to sell a certain percentage of zero emission vehicles (ZEV) per year, and I was very pleased that California has done so. Growing sales of EVs will begin to displace fossil fuels and lead to much better air quality as long as the program remains in place.

11. I am aware that the National Highway Traffic and Safety Administration (NHTSA) and the Environmental Protection Agency (EPA) have issued a rule declaring that California is preempted from setting ZEV mandates and its own greenhouse gas standards, and that has also revoked California's Clean Air Act waiver which permitted these regulations. The rule also prohibits other states from adopting California's standards for themselves. I am extremely concerned about this. California has always led the nation on air quality matters, and other states have been able to follow California's example and bring the same measures to their own states. But NHTSA's and EPA's rule also prevent other states from taking those actions. Undoing California's and other states' ability to set ZEV mandates and greenhouse gas standards will increase greenhouse gas emissions, levels of ozone, particulate matter, and other harmful pollutants, which will only make my area's air quality worse than it otherwise would be. In turn, that will interfere with my enjoyment of hang gliding and continue or create even greater reductions in visibility because of vehicle pollution, and it may make me quit altogether. The roadside pollution will affect the species I care for and study as well. I am additionally concerned that stopping California's ZEV mandate and greenhouse gas standards will result in fewer electric vehicles coming to market. If that happens, I worry that the air quality where I live will get worse.

12. I am also aware that recently, NHTSA and EPA have revoked current fuel efficiency and greenhouse gas standards for the entire nation's passenger cars and light trucks, and have supplanted them with very weak standards that allow an enormous amount of additional fuel consumption and the harmful pollution that comes from it. This will exacerbate the poor air quality that causes me tightness in my lungs and interfere with my enjoyment of the desert and its species and my hang gliding activities. The environmental degradation and all the

effect it has on my health and my environment will become that much worse. Such weak standards also provide no incentives for the development of more and better EVs, which will become even less available than they are now.

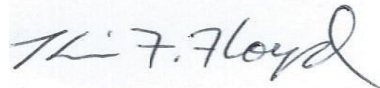
13. I understand that NHTSA did not prepare an environmental impact assessment for the rule prohibiting California's ZEV mandate and greenhouse gases, and that the impact statement for the weakened rule for national standards failed to consider and evaluate any alternatives that would actually lessen the environmental burdens caused by fossil fuel vehicles. These failures deprived me and others of important information about how to reduce the harms vehicle pollution causes me, as I have described, and prevented Sierra Club and others from commenting on them.

14. I support Sierra Club's lawsuit to overturn the rule declaring that California may not set ZEV or greenhouse gas standards and that its waiver to do so is revoked, and that other states may no longer follow California's rules. I also support the lawsuit seeking to overturn the new, much weaker fuel efficiency and greenhouse gas rule for the entire national vehicle fleet. If the court overturns either of these rules, I would directly benefit from improved air quality because reduced vehicle pollution would allow me to continue and enjoy hang gliding, and would improve my enjoyment of the aesthetics of what I can see from high in the air and slow the dangers facing the desert species I care for and enjoy. I also believe that the tightness I feel in my lungs would begin to lessen. Striking down the rule preventing California's ZEV mandate and separate vehicle greenhouse gas standards would assist the continued proliferation of electric vehicles and would have a significant positive impact on air quality and greenhouse gas emissions where I live, in California and elsewhere; it would help us mitigate the terrible climate disaster we are all facing. An order by the court striking down either of these rulemakings and

requiring NHTSA to prepare proper environmental assessments would give me the information I need and am entitled to. And restoration of California's ability to issue ZEV mandates and its own greenhouse gas standards would increase the availability of electric vehicles where I live and reduce emissions.

I declare under penalty of perjury that the foregoing is true and correct.

Dated: May 18, 2020, at Palm Desert, California.

A handwritten signature in black ink that reads "Kim F. Floyd". The signature is written in a cursive style and is positioned above a horizontal line.

Kim Floyd

DECLARATION OF VICENTE PEREZ MARTINEZ

I, Vicente Perez Martinez, declare as follows:

1. I am over 18 years of age and competent to give this declaration. I have personal knowledge of the following facts, and if called as a witness could testify competently to them. As to those matters which reflect an opinion, they reflect my personal experience, opinion and judgment on the matter.

2. I live in Los Angeles, California, and have lived there since 2013. I am a film editor. I edit commercials, trailers for movies, and movies.

3. I am a member of the Sierra Club and have been for almost three years. I joined the Sierra Club because I became very concerned about environmental protection after the 2016 presidential election. I am a film editor, so I thought the best way to get involved was to become a member of a non-profit that knows how to do this work, rather than attempting to do the work myself. As a member of the local Angeles Chapter, I have attended some rallies and keep abreast of environmental issues.

4. I am aware that Los Angeles County is in nonattainment for ozone and particulate matter under the National Ambient Air Quality Standards, and I am worried about the poor quality of the air all around my home. I live about 500 feet from La Brea Avenue and less than a mile from La Cienega Boulevard, both of which are major traffic arteries and carry very heavy traffic. During the prolonged rush hours, cars sit bumper to bumper for extended periods of time, releasing harmful emissions. Our backyard is so close to La Brea Avenue that the soot and grime from vehicle traffic gets all over the backyard: a nasty, gray dust lies on top of everything. We no longer use the backyard more than a few days a month, restricting my use and enjoyment

of my property, and we have to clean the surfaces of furniture and other objects thoroughly before we do.

5. I track the air quality index daily through an app on my iPhone. I like to run outside every day, but, when the air quality is poor, I have to forgo that pleasure and run at my gym instead. I also monitor how much time my five-year old daughter spends outside during poor air quality days because I don't want her to breathe the unhealthy air and develop respiratory problems.

6. I am also very concerned about climate change. I try to follow climate science closely and I am aware that we are approaching a tipping point in which we have a narrow timeframe to turn things around if we truly want to tackle the climate problem. We are running out of time to take serious action to mitigate the impacts of climate change, but unfortunately, we are doing the opposite and exacerbate the current and coming damage by producing more greenhouse gases. I am particularly concerned about the role of the transportation sector in causing climate change, as I am aware that the transportation sector is the biggest emitter of greenhouse gases in the U.S. and is a major cause of climate change. I also know that greenhouse gases lead to the ground-level ozone that causes terrible health effects.

7. When my wife and I had a baby, my perspective on things changed. My daughter will live to see the 22nd century, and I often think about how my decisions will affect her and the world. As a parent, it is very important for me to do my part to leave behind a world that gives my daughter and other people of future generations a healthy environment and a chance to thrive. My desire to breathe cleaner air, to stop vehicle emissions of particulate matter, other dangerous pollutants and greenhouse gases, and to protect my and family's health are among the reasons

why I own electric vehicles, since I must have a car as it is very difficult to live and get to work without one in my neighborhood.

8. My wife and I currently own two used electric vehicles, a 2014 BMWI3 and a Tesla Model S. We drive them because they do not emit any tailpipe pollutants at all. We plan to replace at least one of them soon with another electric vehicle, when there are hopefully more options to choose from that are cheaper and have a larger array of features than currently available models. We will most likely replace our BMW, as it only has 65-70 miles of range. We use our BMW for shorter trips around downtown LA, but we are counting on further technology development and deployment so we can get a new electric vehicle with a better range. The electric vehicle options that are currently available are limited, have short ranges, and are sold at relatively high prices. For example, the used Tesla Model S is the cheapest model available that has at least close to 200 miles of range.

9. I believe that there are more electric vehicles available in California compared to most other states because of California's zero emissions vehicle (ZEV) mandate, which requires that car makers sell a certain number of new electric vehicles every year. I am aware that the National Highway Transportation and Safety Administration (NHTSA) and the EPA have issued a rule declaring that California's ZEV mandate is preempted by federal law, and that California may no longer set greenhouse gas standards for vehicles. I also know that the federal EPA has revoked a waiver California possessed which permitted California's ZEV mandate and the setting of greenhouse gas standards, and that many prior waivers have allowed California to set vehicle emissions standards that are more stringent than federal law. Other states that have adopted California's measures are now also precluded from doing so, and these actions therefore have effects on the entire national vehicle market.

10. I am very concerned that these actions will result in fewer electric vehicle options and fewer electric vehicles for sale here in California and elsewhere. That will drive prices up for whatever EVs may still be available, making it much harder to buy them. And it will stop or delay the technical innovation we need to get improved EVs on the market. The cancellation of the ZEV mandate directly affects me and my ability to buy another electric vehicle at better prices, better range, and to have other consumer choices in buying these vehicles.

11. Additionally, I invested a lot of money in a charger and solar panels in order to set up my home for electric vehicles. Because the ZEV mandate has been preempted and the waiver revoked, I am afraid that my investments in EV charging infrastructure will also be affected and that the expansion of available charging stations will considerably slow down or even stop. So, not only will I have fewer choices to replace my electric vehicle, but it will also become more difficult to operate my current ones due to limited infrastructure. Slowing down the drive for more electric vehicles will also decrease the value of the charging infrastructure in my home.

12. I am extremely concerned that declaring the ZEV mandate and California's ability to set greenhouse gas standards at levels more stringent than federal law, or at all, and the revocation of the waivers that allowed California to take these actions, will increase greenhouse gas emissions and levels of ozone and particulate matter, which will make my area's air quality even worse than it will be with these protections in place and negatively affect my outdoor activities. If that happens, I fear that I will need to further limit running outdoors and using my backyard. I also believe that these rollbacks will result in fewer electric vehicles on the market and impair my ability to purchase new electric vehicles and operate the ones I have.


13. I have learned that NHTSA and EPA also issued another final rule that makes greenhouse gas and fuel efficiency standards much weaker for all of the vehicles in the United

States. If that rule stays in place, a vast amounts of additional oil will be combusted and greenhouse gases emitted, all making the air quality much worse and climate change damage ever more devastating. Weakened national standards will also affect the availability of EVs, as automakers will have much less incentive to build them. That, again, will affect my ability to purchase the EV I want and diminish the value of my EV infrastructure investments.

14. I support Sierra Club's lawsuit challenging both of these rules. If the court overturns either of them, I would directly and personally benefit in many ways: I would be able to breathe cleaner air, be able to expand my outdoor physical activities, and use my backyard more often. I would also know that the air quality where I live will improve. I would know that greenhouse gas emissions are being reduced and the damage of climate change abated. Additionally, I would have more choices for a new electric vehicle and I could operate my used electric vehicles with the support of more infrastructure, and not lose the value of my investments in EV infrastructure at my house. All of these effects would improve my quality of life because I live in a really congested and polluted area. Finally, I will sleep better at night knowing that we are creating a more healthy future for my daughter.

I declare, under penalty of perjury, that the foregoing is true and correct.

Dated: May 20, 2020.



Vicente Perez Martinez

DECLARATION OF IGOR TREGUB

I, Igor Tregub, declare as follows:

1. I am over 18 years of age and competent to give this declaration. I have personal knowledge of the following facts, and if called as a witness could testify competently to them.

As to those matters which reflect an opinion they reflect my personal experience, opinion and judgment on the matter.

2. I live in Berkeley, California, in Alameda County, and have lived here since 2003.

3. I have been a member of the Sierra Club since 2008. Getting involved in Sierra Club has been an excellent vehicle for advocacy and success on good policies on the issues of transportation and air quality, among other things. I am very involved in the Sierra Club San Francisco Bay Chapter and am part of its Transportation and Compact Growth Committee. I am also a member of the East Bay Chapter of the League of Conservation Voters, Indivisible Berkeley and its Science and Environment Team, California Young Democrats and its Environmental Caucus, and the California Democratic Party Environmental Caucus. I am currently an elected Commissioner on the City of Berkeley Rent Stabilization Board.

4. I am very concerned about the poor air quality in the Bay Area. West Berkeley and West Oakland tend to have some of the worst air quality of the nine counties in the Bay Area region, with high readings for particulate matter and ground-level ozone. My housing complex is in an air pollution and climate hotspot here in the Bay Area. I live about a half mile from the I-80 freeway, which – pre-COVID-19 – carried extremely heavy vehicle traffic, and around 7 miles away from the Richmond Chevron refinery, which refines gas and diesel that these vehicles burn. Both of those activities cause air pollution where I live, including particulate matter, ground-

level ozone and other noxious gases. I have seen firsthand how this has affected air quality in my area and the health of my constituents.

5. Because the area where I live is so close to the sources of harmful air pollution from tailpipes and oil refining, I know that my own life span will likely be shortened. This knowledge makes me anxious, but I am most upset about and fear for my neighbors, some of whom suffer respiratory conditions. I represent nearly 120,000 residents on the Berkeley Rent Stabilization Board, and I worry about how poor air quality affects them. I see firsthand how air pollution impacts the behavior of folks who have sensitive health receptors and how this can completely disable them for hours or even days. I run several times a week and I try to hike as often as I can on a loop parallel to I-80, and I intend to continue to do so as long as the air quality is improving. But I do not exercise outside on bad air quality advisory days and instead remain indoors. On bad air quality days I also try to minimize the use of my vehicle, but I currently work 40 miles away from home, which makes this difficult (the Bay Area's current shelter-in-place order notwithstanding). I hate it when I have to drive, especially on bad air quality days, because I do not want to contribute to the problem. These concerns are the reasons why I am trying to invest in an electric vehicle as it emits no tailpipe pollutants.

6. I am currently in the market for an electric vehicle and am fully committed to get out of my gasoline-powered vehicle in about three months. I will likely get a plug-in hybrid if I can get charging infrastructure in my multifamily housing complex. I think a lot about the harmful pollutants my conventional car emits that make people sick, and also about my carbon footprint and the fact that we have ten years to make dramatic changes to prevent the worst effects of climate change. I know that any changes I make at a micro level will not have the great impact that a broad policy change would, but I feel that I need to lead by example. My biggest

effort has been to craft a model local policy for electric vehicle sharing agreements with landlords that would result in the installation of charging infrastructure in multifamily housing, which will make it easier for me and others to buy and charge electric vehicles.

7. I know that California has led the nation for decades in setting more stringent emission standards for vehicle pollution, and also that California has had zero emission vehicles mandates and its own greenhouse gas emission standards for some time. California's regulations have caused electric vehicle sales to go up, helping to make the air cleaner. Other states have adopted California's standards, which has helped push the development of EVs and the necessary infrastructure nationwide.

8. I am aware that the National Highway Traffic and Safety Administration (NHTSA) and the Environmental Protection Agency (EPA) have issued a rule in which NHTSA finds that federal law preempts California's zero emission mandate and greenhouse gas emission standards, and they are no longer in effect. EPA has cancelled a waiver under which California, until now, could set ZEV standards and its own greenhouse gas emission standards. I am also aware that other states have been able to follow California's example, but that EPA's and NHTSA's rule have cancelled the right of these other states to do what California does.

9. Because California's ZEV mandate no longer exists, automakers no longer have to sell ZEV vehicles. This means that the number of EVs available for sale and on the streets will diminish, and harmful pollution where I live will increase. It also means that more fossil fuel cars will be built and sold, which means they will consume more fuel and harmful emissions from the Richmond refinery are likely to increase as well, harming air pollution from both traffic and refining activities.

10. I am aware that NHTSA and EPA also have issued a rule that will significantly lower the stringency of the federal fuel efficiency and greenhouse gas standards for the light duty vehicle fleet, causing the combustion of huge amounts of additional fuel and increased emissions of ozone-forming greenhouse gases, particulate matter and other noxious air pollution. I am extremely concerned because taking away California's ability to issue these regulations will have an effect on automakers' incentive to build and sell zero emissions vehicles, which in turn will increase ozone and other pollution and make the Bay Area's air quality worse. I am additionally concerned that these rollbacks will result in more barriers to purchasing electric vehicles due to a lack of rebates and lack of investment in electric vehicle infrastructure. I worry that losing the ZEV mandate and the much more stringent federal fuel efficiency and greenhouse standards will make it more difficult for myself and others to purchase electric vehicles and will jeopardize incentives for consumers to do so, such as rebates. I fear that there will be fewer such vehicles to purchase, that they will be more expensive, and that I will have much less choice in which electric vehicle to buy.

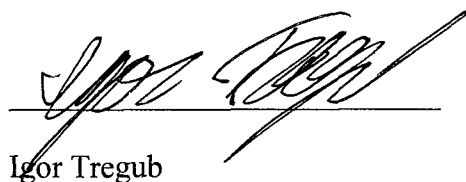
11. I am also very concerned about climate change. Climate change obviously affects everything that we do, especially since I am a millennial and will likely have to deal with climate change for the rest of my life. I am extremely concerned that that science tells us that we only have about ten years to make dramatic shifts, and it is disheartening that we have the technology to do it, but lack the necessary will. The transportation sector plays an outsized role in causing climate change, as it is the biggest emitter of greenhouse gases in the U.S., and rolling back regulations that reduce the sector's emissions sets us back when we cannot afford to lose time.

12. I support Sierra Club's lawsuit challenging NHTSA's and EPA's rule stating that federal law preempts California's right to set zero emission vehicle sales mandates and its own

greenhouse gas vehicle standards, that EPA's waiver for California has been withdrawn, and that other states can no longer follow California's example. I also support the lawsuit trying to reverse the rollback of federal fuel efficiency and greenhouse gas standards for the national light duty vehicle fleet. If the court reverses either of these rollbacks, I would personally and directly benefit from cleaner air and fewer climate-disrupting and ground-level ozone causing greenhouse gas emissions. I will be able to pursue my outdoor physical recreational activities more often because there will be fewer bad air days because harmful pollution from vehicles and refining activities will be reduced. Additionally, I will have more choices for a new electric vehicle within my budget range. Keeping the ZEV mandate in place will also drive my ability as a policymaker to get more electric vehicle infrastructure for folks who are renters like I am. The lack of electric vehicle infrastructure is a significant barrier, and success in this litigation will provide more incentive for the government and the private sector to invest in this infrastructure, so that I and others can charge our electric vehicles at home.

I declare, under penalty of perjury, that the foregoing is true and correct.

Dated: May 20, 2020.



Igor Tregub

DECLARATION OF GERALD MALCZEWSKI

I, Gerald Malczewski, declare as follows:

1. My name is Gerald Malczewski. I am over eighteen years of age, of sound mind, and fully competent to make this declaration. I also have personal knowledge of the factual statements contained herein.

2. I have been a member of the Union of Concerned Scientists since January 2017. I have participated in climate change awareness and policy initiatives through state and local working groups, such as the One Region Forward Initiative, which develops climate mitigation and infrastructure resiliency in the Buffalo Niagara region. I have also been an active participant in the Transportation and Climate Initiative (a multistate northeast corridor effort focused on reducing transportation related carbon emissions), participating in webcasts and a local workshop.

3. I am a veteran, and served in the United States Naval Reserve from 1963 to 1969, including active sea duty from 1965 to 1967.

4. I received a Bachelor's degree in Mathematics from State University College at Buffalo in 1971 and a Master's degree in Mathematics from Indiana University Bloomington in 1973. I was employed as an information technology professional for over 30 years, primarily at M&T Bank and HSBC Bank, as a

systems analyst and project manager. I also was an adjunct mathematics instructor for 14 years, teaching at Erie Community College and Medaille College.

5. I have been an avid alpine skier for 35 years, and have skied both at local ski areas and in New England, Utah, and Wyoming. I enjoy skiing for the continuous challenges it presents (even to experienced skiers), its proximity to beautiful outdoor scenery, its social dimension, and its lessons for balancing physical risks against their rewards.

6. I was a ski instructor in Kissing Bridge Ski Resort in Glenwood, New York, for 28 years, and I estimate that I have instructed thousands of skiers. It was immensely rewarding to watch my students grow more comfortable in their skills and physical capabilities.

7. I am a volunteer mentor for a physics course offered by Coursera, an online learning platform. I have some familiarity with climate change models and the factors that drive global warming.

8. I have serious concerns about the impact of climate change on future generations. I worry about my generation's failure to safeguard natural resources for future generations, particularly my grandchildren. Unless this country's government—and particularly the federal government—accelerate efforts to combat climate change, I fear my grandchildren will conclude that we failed, through lack of will and willful ignorance, and in spite of overwhelming scientific evidence, to take the difficult but necessary action to save the planet.

9. I am particularly concerned about the effects of climate change on the ski and snow sports industries. In my three decades as a ski instructor, I witnessed the ski season shorten and winter weather destabilize, with fewer periods of prolonged snow cover. Ski resorts have closed or invested in expensive snowmaking upgrades to mitigate the loss of customers. As ski seasons contract (or disappear completely), I will be further deprived of one of my most beloved hobbies.

10. I live in Lancaster, New York, about seventeen miles east of Buffalo. The region lacks well-developed rail networks and bus lines.

11. Driving a car is therefore my normal means of transportation. Collectively, my wife and I drive roughly 13,000 miles per year, primarily for medical and dental appointments, shopping, recreation, volunteering, miscellaneous errands, vacations, and periodic road trips to see family.

12. My wife and I lease two vehicles: a 2017 Toyota RAV4 and a 2019 Honda Insight (a gas/electric hybrid vehicle). We drive both vehicles regularly for each of the above purposes.

13. We would like to replace the RAV4 with a comparable but cleaner lease if the option was available and affordable. Eventually we would like to drive fully electric vehicles, but the lack of charging infrastructure in our area and the cost of electric vehicles makes ownership in the near term difficult.

14. If cleaner, more affordable options to lease or buy were available, we would replace one or both cars as soon as possible.

15. When we look to replace the RAV4, our priorities will be to minimize our carbon footprint, reduce emissions of other pollutants, and find an automobile that is safe, reliable, and relatively inexpensive.

16. My choice of clean cars and my skiing depends in part on the federal government's vigorous regulation of fuel economy and greenhouse gas ("GHG") standards for passenger vehicles, which collectively force the development of cleaner cars and drastically drive down global greenhouse gas emissions. The emissions reductions, in turn, slow global climate change and help preserve the ski season.

17. Conversely, loosening fuel economy and greenhouse standards will reduce the pressure on the automobile industry to ramp up production of hybrids, electric vehicles, and more efficient conventional vehicles, and will exacerbate climate change and its effects on local ski resorts.

18. I am aware that, in 2013, EPA provided California with waivers under the Clean Air Act, which allowed California to set its own GHG standards for light duty vehicles and to create a program to incentivize the purchase of "Zero Emission Vehicles," or "ZEVs." I am also aware that, under the Clean Air Act, other states could and did adopt California's programs. One of these states is New York.

19. Because of the widespread adoption of these programs, availability of low or zero emission vehicles—and related infrastructure—has increased nationwide, and particularly in states that have adopted California’s standards.

20. If the standards remain effective, I will have greater access to such vehicles, since the trends related to California’s standards will continue or accelerate. Likewise, New York’s maintenance of California’s standards will trim GHG emissions and thereby help to protect downhill skiing and other winter sports.

21. I am aware that EPA has finalized an unprecedented decision to revoke California’s waiver and to prohibit other states from enforcing the California standards they have relied on for the better part of a decade. I am also aware that the Department of Transportation has suddenly decided that its regulatory authority prevents EPA from issuing these waivers in the first instance, thereby barring EPA from enforcing any waivers it has granted and not withdrawn.

22. If the federal government consummates these actions—or lowers federal GHG or fuel economy standards—it will meaningfully undo and foreclose nationwide progress towards a wider availability of low or zero emissions vehicles. In so doing, it will curtail my access to the types of vehicles I most want to

purchase when replacing the cars I currently drive. Lower state and federal standards would also accelerate the regional effects of climate change, including the adverse effects in snow sports.

I declare under penalty of perjury that the forgoing is true and correct.

Executed in Lancaster, New York on MAY 27, 2020.



Gerald Malczewski

DECLARATION OF SAMRAT PATHANIA

I, Samrat Pathania, declare as follows:

1. My name is Samrat Pathania. I am over eighteen years of age, of sound mind, and fully competent to make this declaration. I also have personal knowledge of the factual statements contained herein.

2. I have been a member of the Union of Concerned Scientists (“UCS”) since August 2016 and a member of its Science Network since October 2018. I am a former chair and coordinator of the New Paltz Climate Action Coalition, which educates the public about climate change science and supports short and long-range planning to deal with the local environmental and social consequences of climate change.

3. I received a Bachelor’s degree in Mechanical Engineering in 2002 from the National Institute of Technology in Jamshedpur, India. I received a Bachelor’s degree in Mathematics and Secondary Education Physics in 2013 and a Master’s degree in Secondary Education Mathematics in 2018 from the State University of New York at New Paltz. I was formally employed as a software engineer with multinational corporations. I currently teach physics, mathematics, and software programming at Wallkill Senior High School in Wallkill, New York.

4. I live in New Paltz, New York, about six miles from the Shawangunk Mountains. Many visitors come to the region each weekend to enjoy the natural beauty.

5. This tourism means constant convoy of cars, trucks, and motorcycles bringing noise and air pollution to our community. The worst of this pollution is on the Main Street of New Paltz, which on weekdays is a beautiful place to walk with lots of small local businesses. I have to avoid this part of town during the weekends, since the increased traffic and pollution exacerbates sinus related health issues.

6. Beyond local pollution, I am concerned about global climate change. The primary driver of this change is our modern economy's reliance on fossil fuels to generate electricity, power our vehicles, and heat our homes. If we continue business as usual with respect to our use of and reliance on fossil fuels, then as per the Fourth National Climate Assessment, we will certainly face more frequent and intense extreme weather events, as well as changes in average climate conditions, both of which will damage infrastructure, ecosystems, and social systems that provide essential benefits to communities.

7. If left unchecked, climate change will injure me and my community. In 2012, Superstorm Sandy ravaged parts of New York and New Jersey. Many families of the students at my alma mater (SUNY New Paltz) were affected by the

flooding caused by Sandy. The loss and damage experienced by these families and friends was traumatic and interrupted the pursuit of attending college for some students. It is precisely this flooding damage that can be attributed to climate change. The Hudson Valley is expected to have more intense precipitation events in the coming years. This is clearly bad news for the thriving agriculture in our community, as flooding can adversely affect ecosystem function, farm economic viability, and land use. Small, multigenerational, owner-operated businesses (including farms) and natural resources form the core of our community's identity. These attributes of the local economy and community are what convinced many families, including mine, to make this part of New York home.

8. One way I and my neighbors can help ameliorate local pollution is by driving more zero emission vehicles, which are quieter and emit no exhaust.

9. Zero emission vehicles also address climate change. Every time we make a trip in our gasoline cars (whether to drive a loved one to the emergency room or to a soccer game) we make the problem of climate change just a tiny little bit worse.

10. I bought my first electric vehicle almost five years ago to do my part to address local pollution and climate change. I chose a Chevy Volt (a plug-in hybrid) because it fit my financial circumstances and driving needs.

11. At the time, the public charging infrastructure in my area was sparse and it was difficult to find information about electric vehicles. Fortunately, UCS published their comprehensive “Cleaner Cars from Cradle to Grave” report that answered many of my questions. Since then, I have helped fifteen friends purchase electric cars.

12. Given the clear benefits of electric vehicles—like greater fuel efficiency that doesn’t sacrifice performance and an opportunity to reduce air pollution caused by vehicle exhaust—I believe more Americans would choose to purchase electric vehicles if cleaner, more affordable options to lease or buy were available, along with the necessary infrastructure.

13. The availability of clean cars and electric vehicles infrastructure depends in part on the federal government’s vigorous regulation of fuel economy and greenhouse gas standards for passenger vehicles, which collectively force the development of cleaner cars and drastically drive down local pollution and global greenhouse gas emissions. The emissions reductions, in turn, slow global climate change and help reduce flooding and other natural disasters.

14. Conversely, loosening fuel economy and greenhouse standards will reduce the pressure on the automobile industry to ramp up production of hybrids, electric vehicles, and more efficient conventional vehicles, and will exacerbate climate change and its effects on communities like mine.

15. I am aware that, in 2013, EPA provided California with waivers under the Clean Air Act, which allowed California to set its own greenhouse gas (“GHG”) standards for light duty vehicles and to create a program to incentivize the purchase of zero emission vehicles. I am also aware that, under the Clean Air Act, other states could and did adopt California’s programs. One of these states is New York.

16. Because of the widespread adoption of these programs, availability of low or zero emission vehicles—and related infrastructure—has increased nationwide, and particularly in states that have adopted California’s standards. Partially as a result of these standards, the public charging infrastructure in our area has expanded considerably, and the number of electric vehicles in the community has grown by a factor of 10. Yet electric vehicles owners remain a minority.

17. If the standards remain effective, I expect great penetration of electric vehicles and electric vehicle infrastructure, since the trends related to California’s new standards will continue or accelerate. Likewise, New York’s maintenance of California’s standards will trim GHG emissions and thereby help to protect communities from the increasing severity of natural disasters.

18. Conversely, continued expansion of low emissions vehicles and infrastructure is unlikely if California's efforts to set higher emission standards are thwarted.

19. I am aware that EPA has finalized an unprecedented decision to revoke California's waiver and to prohibit other states from enforcing the California standards they have relied on for the better part of a decade. I am also aware that the Department of Transportation has suddenly decided that its regulatory authority prevents EPA from issuing these waivers in the first instance, thereby barring EPA from enforcing any waivers it has granted and not withdrawn.

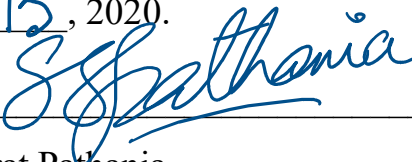
20. If the federal government consummates these actions—or if it imposes less stringent federal standard for fuel economy and greenhouse gas emissions—it will begin undoing nationwide progress towards a wider availability of low or zero emissions vehicles. In so doing, it will impair the Hudson Valley's progress towards widespread and abundant electric vehicle infrastructure, which will in turn slow progress in reducing local pollution. The agencies' decisions would also accelerate the regional effects of climate change.

21. An order from this Court striking down the government's orders would redress my injuries by leaving stronger standards in place in New York and nationwide. The maintenance of more stringent standards would result in greater

consumer choice, more widespread electric vehicle infrastructure, reduced local pollution, and a reduction in the devastating effects of climate change.

22. I declare under penalty of perjury that the forgoing is true and correct.

Executed in New Paltz, New York on June 15, 2020.



Samrat Pathania

DECLARATION OF JOHN STEEL

I, John Steel, declare as follows:

1. My name is John Steel. I am over eighteen years of age, of sound mind, and fully competent to make this declaration. I also have personal knowledge of the factual statements contained herein.
2. I am a member of the Union of Concerned Scientists and was a member at the time this litigation commenced.
3. I graduated Princeton University in 1956 with a Bachelor of Science in Engineering, Columbia University Law School in 1959 and New York University Law School with a graduate degree in Taxation. I was elected to the Town Counsel of Telluride, Colorado in 1994, became Mayor in 1999 and served in that capacity until 2006. As Mayor I dealt with several environmental issues of vital concern to our community ranging from compliance with standards for PM10 particles in the air to condemnation of a large landholdings for environmental and recreational purposes. Additionally, the Council confronted problems related to forest fires, mining waste removal, re-opening of uranium mines, green construction standards, water use for snow making, all of which presented environmental issues.
4. Not only was our community's economy dependent on the environment, I too was an avid hiker and cross-country skier.

5. I have been concerned for many years with environmental issues. My impetus for seeking election to the Telluride Town Counsel was entirely prompted by my concern for the delicate environment of Telluride. Now, as a parent and grandparent, and with increased knowledge and sensitivity to environmental degradation, my concern and my activism has deepened.

6. I live in Santa Barbara, California. For many years I was skeptical of Californians for their dependence on personal automobiles. However, once I moved here to be closer to my children and grandchildren and for medical reasons, I realized that automobiles were not only a personal necessity, but also essential for the economy. I constantly use my cars for doctor and dental visits (both here and in Los Angeles), for business, to offices and the airport, to go to the gym, for shopping, to visit my children and grandchildren, for short vacations nearby, and for easy access to the movies, theatres, and concerts. Despite the availability of public transportation, an active person my age (85) cannot satisfactorily do without a car.

7. Two years ago I traded in my Toyota Highlander for a far more efficient Lexus Hybrid. It achieves nearly twice the miles per gallon my Highlander did, without any compromise in size, power or comfort. I was told at the car agency that Lexus undertook to develop this vehicle to comply with governmental requirements and because of its concerns for the environment. I also

learned that hybrid vehicles were strong sellers and had higher resale values. I intend to replace or supplement my hybrid Lexus with a small, zero emission vehicle within the next few years. Most of my trips are local, and I can charge it at home. I hope with sufficient incentive car makers will produce what I want at a reasonable price.

8. As a car dependent person in a location crowded with other car dependent residents, it is painfully obvious on our crowded, sometimes congested roads, what we are doing to the air we breathe because of the vehicles we drive. And we drive these vehicles because they are the ones car manufacturers produce in the price range we can afford. Like so much else, necessity—and that means governmental requirements—will force car manufacturers to engage in research to develop more efficient affordable vehicles. We have seen this work in the past when car manufacturers have their feet to the fire. My hybrid is proof. So too is the smog reduction in many cities, Los Angeles being a prime example. There is no reason to remove the pressure to reduce dependence on expensive fossil fuel that pollutes the air with unhealthy particles and adds to the greenhouse gases. The technology already exists, if not the economic incentive.

9. My ability to purchase an affordable clean car depends in large part on the federal government's vigorous regulation of fuel economy and greenhouse gas standards for passenger vehicles, which collectively force the development of

cleaner cars available at affordable prices to the public. With widespread conversion of vehicle to more efficient ones, global greenhouse gas emissions will be drastically reduced. The emissions reductions, in turn, slow global climate change.

10. Conversely, loosening fuel economy and greenhouse gas (“GHG”) standards will reduce the pressure on the automobile industry to do the necessary product development for increased production of economical hybrids, electric vehicles, and even more efficient conventional vehicles.

11. I am aware that, in 2013, EPA provided California with waivers under the Clean Air Act, which allowed California to set its own greenhouse gas standards for light duty vehicles and to create a program to incentivize the purchase of “Zero Emission Vehicles,” or “ZEVs.”

12. California (and the federal GHG standards) are good examples of the power of government regulation. Higher standards, and, in particular, the California waiver force car makers who wish to sell their vehicles here, in this most lucrative market, to comply with more stringent requirements.

13. California made this choice to protect its citizens and to provide them with wider choices for vehicles they—and I—could feel good about driving. That trend must continue as global warming continues to increase.

14. If the standards remain effective, I will have greater access to low emissions and more efficient vehicles, since the trends related to California's standards will continue or accelerate.

15. I am aware that EPA has finalized an unprecedented decision to revoke California's waiver and to prohibit other states from enforcing the California standards they have relied on for the better part of a decade. I am also aware that the Department of Transportation has suddenly decided that its regulatory authority prevents EPA from issuing these waivers in the first instance, thereby barring EPA from enforcing ant waivers it has granted and not withdrawn.

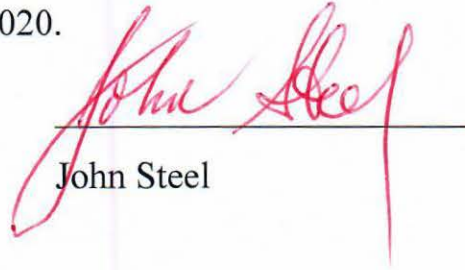
16. If the federal government consummates these actions, or if it lowers federal emissions and fuel economy standards, it will begin undoing nationwide progress towards a wider availability of low or zero emissions vehicles. In so doing, it will curtail my access to the types of vehicles I most want to purchase when replacing the cars I currently own. The agencies' decisions would also accelerate the regional effects of climate change.

17. An order from this Court striking down the government's orders would redress my lack of consumer choice by leaving intact more stringent

standards. The maintenance of more stringent standards would result in greater consumer choice.

18. I declare under penalty of perjury that the forgoing is true and correct.

Executed in Santa Barbara, CA., on June 01 2020.



John Steel

DECLARATION OF ADAM LEE

I, Adam Lee, declare as follows:

1. I am the chairman of Lee Auto Malls in Maine. My family has been in the car business for over 80 years. My partners and I manage 19 dealerships in eight cities across the state. We are the largest volume car dealer – and the largest hybrid dealer – in Maine, selling 10,000 cars and trucks in 2019.

2. At my dealerships, we sell vehicles manufactured by General Motors, Fiat Chrysler, Toyota, Honda, and Nissan.

3. I understand that the state of Maine adopted state clean car standards in 2005, and that beginning in 2009, automakers' fleets in Maine have been required to satisfy the same greenhouse gas and other air pollution standards that have been enacted in California. Maine updated its rules in December 2012 to reflect California's adoption of the Advanced Clean Cars program for Model Year 2017-2025 vehicles, including the Zero Emission Vehicle (ZEV) program. For these years, automakers are required to include Maine among the states where they sell ZEVs to satisfy requirements under the program.

4. Manufacturers develop and carry out campaigns to boost sales of a particular model vehicle, working with and relying on dealers like myself to help promote certain vehicles. While marketing plans are developed far in advance, they

can be modified on a quarterly, and at times even a monthly basis. Dealers receive daily communications from manufacturers about marketing plans and the vehicles that the manufacturer would like dealers to promote during a given month. Dealers place orders for vehicles with manufacturers on a monthly basis, and receive vehicles every week, as they become available.

5. Changes in the laws regulating emissions and fuel economy can have a dramatic impact on a manufacturer's desired product mix. When such changes occur, manufacturers and dealers respond with changes to their marketing and sales efforts.

6. Manufacturers incentivize the sale of certain vehicles in a variety of ways including through advertising; setting quotas for dealers for selling a certain number of vehicles and offering bonus payments to dealers who meet a quota; and utilizing dynamic pricing by offering rebates, discounts, reduced finance rates, and other special pricing and lease programs for consumers.

7. I am aware that the National Highway Traffic Safety Administration (NHTSA) and the Environmental Protection Agency (EPA) have issued a regulation that purports to invalidate state clean car standards including Maine's ZEV program, and purports to revoke California's authority (and thus Maine's authority as well) to adopt and enforce state greenhouse gas and ZEV regulations.

8. While many factors influence the number and variety of ZEVs available to consumers in Maine, the state's adoption of ZEV standards has increased ZEV availability. Since model year 2009, manufacturers have made ZEVs available to

dealers like myself in Maine at higher volume, and they have made a greater effort to market their ZEVs. This in turn enables dealers to sell ZEVs to a wider range of consumers. I expect this trend to continue in Maine in the coming years if the ZEV program is upheld.

9. At my dealerships, we have sold zero emission vehicles, including the Chrysler Pacifica Hybrid, the Nissan Leaf, and the Prius Prime. I do not believe these vehicles would be available in Maine if the state had not adopted the ZEV program.

10. With ZEV standards in effect, states like Maine also adopt associated policies to support implementation of the standards and encourage greater penetration of electric vehicles, such as tax incentives and charging infrastructure. I am concerned that EPA and NHTSA's new rule will handicap these broader efforts by eliminating the key driver: the ZEV standards.

11. National greenhouse gas and fuel economy standards likewise incentivize manufacturers to make cleaner and more fuel efficient vehicles available to consumers. I am aware that NHTSA and EPA recently issued another rule, which dramatically weakens the nation's greenhouse gas and fuel economy standards for passenger cars and trucks.

12. There is significant consumer interest in low and zero emission vehicles, but the range of available hybrid and ZEV options is still limited. For example, I was only able to get a small number of model year 2019 Nissan Leafs despite consumer demand for more. Additionally, many consumers want larger vehicles like

crossovers, minivans, SUVs, and trucks, but the hybrid offerings for these types of vehicles are still limited, and the ZEV offerings for these types of vehicles are just beginning to emerge.

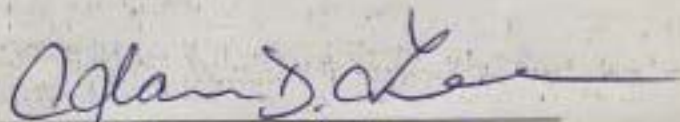
13. EPA and NHTSA's recent actions will only make it more difficult for dealers like myself to meet consumer demand for low and zero emission vehicles.

14. Regulations like the ZEV program as well as state and national greenhouse gas and fuel economy standards are crucial drivers not only in the development of new technologies that improve consumer choice, but in manufacturers' use of the marketing tools I described above to promote and make more widely available the cleaner, more fuel-efficient cars that already make up part of their fleets. Without strong state and national standards, manufacturers will allocate fewer resources toward selling low and zero emission vehicles in Maine and elsewhere, favoring their more profitable, higher-emitting vehicles and limiting the variety and quantity of lower-emission options available to dealers like myself and to our customers this year and going forward.

15. NHTSA and EPA's recent actions will severely limit the choices that Maine consumers have and reduce my sales, hurting my employees. For example, I anticipate that Nissan will reduce the availability of model year (MY) 2021 and 2022 Leafs without ZEV standards in place and under weakened federal standards for those years.

16. Emission standards like Maine's ZEV program and strong greenhouse gas and fuel economy standards have helped push automakers to produce and sell cleaner, more fuel-efficient cars. I am concerned that EPA and NHTSA's recent actions will hurt my ability to meet customer demand and offer a variety of low and zero emission model cars for sale at my dealerships.

I declare under penalty of perjury that the foregoing is true and correct.



Adam Lee

Executed on June 1, 2020