

IN UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF ARIZONA

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CLERK U.S. DISTRICT COURT DISTRICT OF ARIZONA	
BY _____	DEPUTY _____

Dr. Christian Robert Komor, Pro Se Plaintiff

v.

The United States of America;
The President of the United States;
The Office of the President of the United States,
Director of Council on Environmental Quality;
Director of the Office of Management and Budget;
Director of the Office of Science and Technology
Policy;
The United States Department of Energy;
Secretary of Energy;
The United States Department Of The Interior;
Secretary Of Interior;
States Department Of Transportation;
Secretary Of Transportation;
The United States Department Of Agriculture;
Secretary Of Agriculture;
The United States Department Of Commerce;
Secretary Of Commerce;
The United States Department Of Defense;
Secretary Of Defense;
The United States Department Of State;
Secretary Of State;
The United States Environmental Protection Agency;
Administrator Of The EPA, Defendants

CASE NUMBER: **CV-19-00293-TUC-RCC**

**COMPLAINT FOR DECLARATORY
AND INJUNCTIVE RELIEF**

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Jurisdiction

1. This court has jurisdiction over this matter pursuant to Constitutional Rights, Public Trust Doctrine, Ninth Amendment, Fifth Amendment—Due Process, Fifth Amendment—Equal Protection §§ Obergefell v. Hodges, 576 U.S. ___, slip. op. at 10 (2015). The plaintiff Dr. Christian R. Komor is a resident of Tucson, Pima County, AZ and a citizen of the United States. JURISDICTION AND VENUE

2. This action is brought pursuant to the United States Constitution. It is authorized by Article III, Section 2, which extends federal judicial power to all cases arising in equity under the Constitution. “The identification and protection of fundamental rights is an enduring part of the judicial duty to interpret the Constitution.” Obergefell v. Hodges, 576 U.S. ___, slip. op. at 10 (2015). That grant of equitable jurisdiction requires Article III courts to apply the underlying principles of the Constitution to new circumstances unforeseen by the Framers, such as the irreversible destruction of the natural heritage of our whole nation. An actual controversy has arisen and exists between the Plaintiffs and the Defendants because the Defendants have placed the Plaintiffs in a dangerous situation, continue to infringe upon the Plaintiffs’ constitutional rights, and have abrogated their duty of care to ensure the Plaintiffs’ reasonable safety, among other violations of law. The Plaintiffs have no adequate remedy at law to redress the harms herein, which are of a continuing nature and which, if left unresolved, will be irreversible.

3. This Court has jurisdiction pursuant to 28 U.S.C. § 1331 (federal question), 28 U.S.C. § 2201 (creation of a remedy), and 28 U.S.C. § 2202 (further relief) as this action arises under the laws of the United States.

4. The Plaintiffs have a substantial, direct, and immediate interest in protecting the Earth’s atmosphere, other vital natural resources, the Plaintiffs’ quality of life, their property interests, and their liberties. They also have an interest in ensuring that the climate system remains stable enough to secure their constitutional rights to life, liberty, and property, rights that depend on a livable future. A livable future includes the opportunity to drink clean water, grow food, be free from direct and imminent property damage caused by extreme weather events, benefit from the use of property, and enjoy the abundant and rich biodiversity of our nation. Plaintiffs are suffering both immediate and threatened injuries as a result of actions and omissions by the Defendants alleged herein and will continue to suffer life-threatening and irreversible injuries without the relief sought. Plaintiffs have suffered and will continue to suffer harm to their health, personal safety, bodily integrity, cultural and spiritual practices, economic stability, food security, property, and recreational interests from the impacts of climate change and ocean acidification caused by the Defendants. The Plaintiffs have also been denied the procedural right to participate in decision making regarding the Department of Energy’s approval of LNG exports and have suffered procedural harm as a result of this denial.

5. Absent immediate, meaningful action by the Defendants to cease their permitting, authorizing, subsidizing, and supporting fossil-fuel exploitation, production, and consumption, and otherwise to act to phase out CO₂ emissions, the Plaintiffs would suffer increasingly severe consequences. By 2100, these Class Plaintiffs (many of whom should still be alive), and future generations, would live with a climate system that is no longer conducive to their survival. More critically, by the mid-2030s, the opportunity to change this destiny will have passed. Urgent action by this Court is essential.

Plaintiff

6. Plaintiff Dr. Christian R. Komor resides in Arizona, a state that has in recent years been exposed to unnaturally rapid increases in drought, floods, fires and other weather-related hardships. Phoenix, where Dr. Komor resided until recently, has been called America's "urban bullseye for global warming in North America." Central Arizona receives fewer than eight inches of rainfall each year. Most of the water supply for central and southern Arizona is pumped from Lake Mead, fed by the Colorado River over 300 miles away. This winter, snow in the Rocky Mountains, which feeds the Colorado, was 70% lower than average. In the first quarter of 2018, the U.S. government calculated that a two-thirds portion of Arizona was facing severe to extreme drought.

7. In 2017, 50 flights were grounded at Phoenix airport because the heat—which hit 47°C (116°F)—made the air too thin for planes to take off safely. The 2017 fire season in Arizona, at its peak, saw 21 wildland fires active across the state. Almost 190,000 acres of land were burned by August 2017—roughly one third the size of Maricopa County, or roughly 60% of the size of Phoenix. The Coronado National Forest southeast of Tucson alone saw more than 83,000 acres burned in five fires. In addition, Arizona has traditionally been a mining state; public records show that close to 2 billion liters of contaminated wastewater leak every day from mining sites in the United States. This wastewater contains dangerous levels of arsenic and other toxic metals and is flowing into lakes and streams without being treated. Records show that overflowing wastewater is poisoning aquatic life and tainting drinking water in at least nine states, including Arizona.

8. The Plaintiff has been further adversely impacted by the opening-up of an international market for the export of natural gas extracted through hydraulic fracturing immediately adjacent to the Colorado River for export abroad, ultimately to be burned, thereby causing additional CO₂ emissions. The Plaintiff is being harmed by new leases granted for fossil-fuel and uranium exploitation and a rapidly expanding and highly vulnerable pipeline system in Arizona.

9. The Plaintiff believes he has a right to life and liberty guaranteed by the Constitution of the United States and what these rights are being impacted adversely and in danger of being lost entirely due

to global warming induced climate disruption. Like to more than 70% of Arizonans researched by the University of Arizona and Stanford University, the Plaintiff believes that the U.S. Government is responsible for taking timely action on global warming and should limit the amount of greenhouse gases emitted by businesses.

Defendants

10. Defendant the United States of America (United States) is the sovereign trustee of national natural resources, including air, water, sea, shores of the sea, and wildlife. In its sovereign capacity, the United States controls our nation's air space and atmosphere. In its sovereign capacity, the United States also controls federal public lands, waters, and other natural resources, including fossil-fuel reserves. In its sovereign capacity, the United States controls articles of interstate and international commerce, including extraction, development, and conditions for the utilization of fossil fuels, such as allowing CO₂ emissions from major sources.

11. Through its exercise of control over articles of interstate and international commerce, as well as its failure to limit and phase out CO₂ emissions, the United States has caused dangerous levels of CO₂ to build up in the atmosphere. That build-up seriously threatens the relatively stable climate system that has enabled civilization to develop over the last 10,000 years. The build-up impairs essential national public trust resources required by future generations. This failure to prevent the present and looming climate crisis constitutes a breach in the government's basic duty of care to protect the Plaintiffs' fundamental constitutional rights.

12. Defendant Donald Trump, the President of the United States, in his official capacity, is vested with the executive power of the United States and must faithfully execute the office of President, as well as preserve, protect, and defend the Constitution. Through his office, the President has permitted and encouraged fossil-fuel exploitation, utilization, and exports, which activities generate additional CO₂ emissions and, considering the present baseline of atmospheric concentrations, dangerously interfere with the climate system in violation of Plaintiffs' constitutional rights. Moreover, consistent with these efforts that exacerbate the climate crisis, the President has failed to utilize his office to initiate any comprehensive effort to phase out fossil-fuel emissions in amounts that could avert dangerous disruption of the climate system.

13. Defendant the Office of the President of the United States includes the Council on Environmental Quality (CEQ), the Office of Management and Budget (OMB), and the Office of Science and Technology Policy (OSTP).

a. CEQ's mission is to promote the well-being of our country for both current and future generations, which includes curbing the carbon pollution that is causing climate change.

b. OMB serves as the implementation and enforcement arm of all presidential policy, including budget development and execution, the coordination and review of all significant federal regulations, and the issuance of executive orders. OMB promotes the government's affirmative aggregate acts in the areas of fossil-fuel production, consumption, and combustion via coordination and review of federal regulations by executive agencies and review and assessment of information-collection requests.

c. OSTP leads interagency efforts to develop and implement sound science and technology policies and budgets and to work with state and local governments, the scientific community, private sectors, and other nations toward this end, pursuant to authority granted by Congress under the National Science and Technology Policy, Organization, and Priorities Act of 1976, President Bush's 2001 Executive Order 13226, and President Trump. Despite its charge to ensure that the policies of the Executive Branch are informed by sound science, OSTP has permitted the initiation of additional fossil-fuel projects, including extraction, processing, transportation, combustion, and exportation of coal, oil, and gas from conventional and unconventional reserves. The presidential policies promoted by CEQ, OMB, and OSTP have been contrary to sound science. These policies have led to the current dangerous levels of atmospheric CO₂, dangerous interference with a stable climate system, and violations of the Plaintiffs' constitutional rights. Specifically, the President's strategy both continues to allow dangerous levels of carbon pollution and, at best, promises only very modest future limitations with no near-term CO₂ phaseout, as is required to preserve a habitable climate system.

14. Defendant Christy Goldfuss is the current Managing Director of CEQ and in her official capacity is responsible for all actions of CEQ.

15. Defendant Mick Mulvaney is the current Director of OMB and in his official capacity is responsible for all actions of OMB.

16. Since taking office, Donald Trump has refused to appoint a director or other key leadership positions for the OSTP. This directorship is the longest such unfilled high-level vacancy in history.

17. Defendant the United States Department of Energy (DOE) is a federal agency whose mission is to advance the national, economic, and energy security of the United States through clean, reliable, and affordable energy; to protect the environment; and to encourage innovations in science and technology that improve quality of life. DOE's mission statement is to "ensure America's security and prosperity by addressing . . . environmental . . . challenges through transformative science." DOE, through the Office of Fossil Energy, issues short-term and long-term authorizations for the import and export of

natural gas pursuant to authority granted by Congress under the Natural Gas Act of 1938, 15 U.S.C. § 717, as amended by section 201 of the Energy Policy Act of 1992, Pub. L. No. 102-486, § 201, 106 Stat. 2776, 2866. DOE permits domestic energy production and interstate commerce of fossil fuels pursuant to authority granted by Congress under the Department of Energy Organization Act of 1977, 42 U.S.C. § 7112. DOE, through the Office of Energy Efficiency and Renewable Energy, regulates the minimum number of light-duty alternative-fuel vehicles required in certain federal fleets pursuant to authority granted by Congress under the Energy Policy Act of 1992.

DOE, through the Building Technology Office, also sets energy-efficiency standards that dictate energy consumption rates for appliances and equipment pursuant to authority granted by Congress under the Energy Policy and Conservation Act, 42 U.S.C. § 6201, as amended.

a. The Federal Energy Regulatory Commission (FERC), an agency of DOE, regulates the transmission and sale of electricity and natural gas in interstate commerce; regulates the transportation of oil by pipeline in interstate commerce; reviews proposals for natural gas terminals, pipelines, and storage facilities; ensures the safe operation and reliability of proposed and operating LNG terminals; and monitors and investigates energy markets.

18. DOE has knowingly failed to perform its duty to transition our nation away from the use of fossil-fuel energy. DOE's actions and omissions have substantially contributed to unsafe levels of atmospheric CO₂ and a dangerous climate system.

19. Defendant Rick Perry is the current Secretary of Energy and, in his official capacity, is responsible for all actions of DOE.

20. Defendant the United States Department of the Interior (DOI) manages one fifth of our nation's land, including forests and grazing lands; thirty-five thousand miles of coastline; and 1.76 billion acres of the Outer Continental Shelf. DOI's mission is to protect America's natural resources and heritage, honor cultures and tribal communities, and supply the energy to power the future of our country. DOI claims to be taking the lead in protecting our nation's resources from climate impacts and in managing federal public lands to mitigate climate change.

21. DOI, through the Bureau of Land Management (BLM), leases minerals and manages oil and gas development activities on over 570 million acres of federal lands, as well as on private lands where the federal government retained mineral rights, pursuant to the authority granted by Congress in the Mineral Leasing Act of 1920, 30 U.S.C. § 182, as amended, and the Federal Land Policy and Management Act of 1976, 43 U.S.C. § 1719(a). BLM and other federal agencies manage most of the land suitable for oil and gas development in the United States.

22. DOI, through the Bureau of Ocean Energy Management (BOEM), leases the Outer Continental Shelf, the submerged lands, subsoil, and seabed, lying between the seaward extent of the jurisdiction of the states and the seaward extent of federal jurisdiction, for oil and gas development pursuant to authority granted by Congress under the Outer Continental Shelf Lands Act of 1953, 43 U.S.C. § 1333(a), as amended. As of January 2015, BOEM was administering more than 6,000 active oil and gas leases covering nearly 33 million Outer Continental Shelf acres. Pursuant to authority granted by Congress under the Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594, 760, DOI repealed the 160-acre cap on coal leases, allowed the advanced payment of royalties from coal mines, and provided incentives to companies to drill for oil in the Gulf of Mexico.

23. Through its action in permitting the extraction of coal, coal-bed methane, oil, oil shale, and natural gas; the building and use of oil, coal, and electric infrastructure and transmission facilities; and logging, livestock grazing, and off-road vehicle use on public land, the DOI is substantially contributing to dangerous levels of atmospheric CO₂ and a dangerous climate system in our nation.

24. Defendant David Bernhardt is the current Secretary of the Interior and, in his official capacity, is responsible for all actions of DOI.

25. Defendant the United States Department of Transportation (DOT) is a federal agency overseeing this nation's aviation, road, highway, railway, truck, and marine transportation infrastructure. DOT's regulations of emissions related to that infrastructure play a vital role in the federal government's response to climate change.

a. DOT, through the Federal Aviation Administration, the Federal Highway Administration, and the Pipeline and Hazardous Materials Safety Administration, oversees and regulates the spending programs that finance construction and maintenance of our nation's transportation infrastructure, pursuant to authority granted by Congress under the Department of Transportation Act of 1966, 49 U.S.C. § 305, as amended.

b. DOT, through the National Highway Traffic Safety Administration, sets fuel economy standards for U.S. vehicle manufacturers, pursuant to authority granted by Congress under the Energy Policy and Conservation Act of 1975, Pub. L. No. 94-163, § 301, 89 Stat. 902, 903, 905, as amended by the Energy Independence and Security Act of 2007, 49 U.S.C. § 32902.

26. With the power to regulate the means of transportation throughout our country, DOT has the responsibility to ensure that all modes of transportation use only clean energy and eliminate dangerous carbon pollution. Further, DOT permits the transport of fossil fuels via truck and rail. DOT's stated mission is to "[enhance] the quality of life of the American people, today and into the future." DOT acknowledges

the severity of the threats of climate change yet continues to facilitate the severity of climate-change impacts by contributing approximately 27% of U.S. CO₂ emissions in 2013.

27. Defendant Elaine Chao is the current Secretary of Transportation and, in her official capacity, is responsible for all actions of DOT.

28. Defendant the United States Department of Agriculture (USDA) is a federal agency whose vision statement expresses the agency's goal to preserve and conserve our nation's natural resources. USDA's mission statement asserts that it will use the best available science as it carries out its responsibilities in caring for natural resources. USDA has authority over our nation's food and agriculture, as well as many natural resources, including national forests, which serve the vital role of absorbing CO₂ from our atmosphere—commonly referred to as “carbon sequestering.”

a. USDA, through the U.S. Forest Service, authorizes 25% of U.S. coal production.

b. The U.S. Forest Service, along with BLM, coordinates and authorizes the leasing of federal public lands for the extraction of oil and gas pursuant to authority granted by Congress under the Mineral Leasing Act of 1920, as amended by both the Federal Onshore Oil and Gas Leasing Reform Act, and the Mineral Leasing Act for Acquired Lands. The U.S. Forest Service, in conjunction with BLM, issues leases and mining permits for coal-mining development and oversees coal mining on federal public lands pursuant to authority granted by Congress, under the Mineral Leasing Act of 1920, as amended, and the Surface Mining Control and Reclamation Act of 1977, 30 U.S.C. § 1273.

c. USDA's Forest Service Minerals & Geology Management division manages and oversees aspects of the development and production of energy and mineral resources, including authorizing ancillary projects such as roads and pipelines that are part of the energy- and minerals-development projects of USDA.

d. USDA has substantially contributed to and continues substantially to contribute to a dangerous climate system by permitting large-scale logging in national forests, by supporting polluting farming and agricultural practices, and by authorizing fossil-fuel extraction and use under its jurisdiction. USDA has not protected the nation's national forest system as a carbon sink.

29. Defendant Thomas J. Vilsack is the current Secretary of Agriculture and, in his official capacity, is responsible for all actions of the USDA.

30. Defendant the United States Department of Commerce (Commerce) is a federal agency that is supposed to promote sustainable development. Commerce has authority over the monitoring

equipment for greenhouse gas (GHG) emissions, giving it direct oversight of our nation's industries and emissions pursuant to authority granted by Congress under Title 15 of the United States Code.

a. Commerce, through National Institute of Standards and Technology, oversees research in energy efficiency opportunities for homes and companies nationwide.

b. Commerce, through the International Trade Administration's Office of Energy and Environmental Industries, promotes fossil-fuel export opportunities, including identifying for the fossil-fuel industry oil and gas markets where export activities can make the biggest impact, pursuant to authority granted by Congress, under the Reorganization Plan No. 3 of 1979.

c. Commerce, through the Bureau of Industry and Security (BIS), authorizes and administers the rules governing crude oil exports pursuant to 15 C.F.R. § 754.2. BIS issues permits to export crude oil to all destinations, including Canada.

d. Commerce, through the National Oceanic and Atmospheric Administration, is charged with overseeing the preservation and protection of the oceans and the atmosphere pursuant to authority granted by Congress under the Reorganization Plan No. 4 of 1970.

e. Commerce has abrogated its duty to preserve and protect the atmosphere and other natural resources under its jurisdiction and has not prevented the waste of the public trust in the atmosphere and oceans.

31. Defendant Wilbur Ross is the current Secretary of Commerce and, in his official capacity, is responsible for all actions of Commerce.

32. Defendant the United States Department of Defense (DOD) is a federal agency charged with ensuring the security of this nation. DOD considers climate change a threat multiplier for its potential to exacerbate many challenges confronting our nation, including infectious disease, regional instability, mass migrations, and terrorism. Climate change has impacted and will continue to impact all military installations, as well as the DOD's supply chains, equipment, vehicles, and weapon systems.

a. DOD is our nation's largest employer and is responsible for significant carbon pollution from both its vehicle fleet and its 500 bases of military infrastructure, including 300,000 buildings totaling 2.2 billion square feet.

b. For all exports of coal, oil, and gas by ship, DOD's Army Corps of Engineers authorizes marine export facilities, pursuant to the Clean Water Act and the Rivers & Harbors Act. The Army Corps of Engineers also maintains international navigation channels pursuant to authority granted by Congress

under the Rivers & Harbors Act. Such exports endanger the climate system on which our nation and plaintiffs alike depend.

33. Defendant Patrick Shanahan is the current Secretary of Defense and, in his official capacity, is responsible for all actions of DOD.

34. Defendant the United States Department of State (State Department) is a federal agency whose stated mission is to “shape and sustain a peaceful, prosperous, just, and democratic world and foster conditions for stability and progress for the benefit of the American people and people everywhere.” The State Department plays a lead role in the Defendants’ response to climate change. The State Department prepared the 2014 U.S. Climate Action Report, which states that the federal government is “committed to continuing enhanced action . . . to lead the global effort to achieve a low-emission, climate resilient future.”

a. The State Department leads international efforts on climate change on behalf of the Office of the President.

b. The State Department, through the Office of the Special Envoy for Climate Change, is the administration’s chief climate negotiator. In 2009, Special Envoy for Climate Change Todd Stern stated: “The costs of inaction—or inadequate actions—are unacceptable. But along with this challenge comes a great opportunity. By transforming to a low-carbon economy, we can stimulate global economic growth and put ourselves on a path of sustainable development for the 21st century.”

c. The Secretary of State receives all applications for presidential permits for the construction, connection, operation, or maintenance, at the borders of the United States, of facilities for the exportation or importation of petroleum, petroleum products, coal, or other fuels, including hazardous liquids moving to or from a foreign country, and is required to issue a presidential permit if such exportation would serve the national interest, under Executive Order 13337 and pursuant to 3 U.S.C. § 301. Specifically, the State Department has jurisdiction over all cross-border oil pipelines and in the last decade has been considering and approving longer cross-border projects, including those transporting crude oil sands, otherwise known as tar sands. All petroleum products entering and leaving the U.S. by pipeline do so under State Department approval. Currently there are at least 13 active presidential permits for oil pipelines. The State Department has consistently approved such permits, even though it has full authority and discretion to deny them where fossil-fuel projects endanger the nation by causing or enhancing dangerous climate change.

35. Defendant Michael R. Pompeo is the current Secretary of State and, in his official capacity, is responsible for all actions of the State Department.

36. Defendant the United States Environmental Protection Agency (EPA) permits and regulates the activities, industries, and sources of carbon pollution in the U.S. under the Clean Air Act; the

Clean Water Act; the Comprehensive Environmental Response, Compensation, and Liability Act; the Safe Drinking Water Act; and the Resource Conservation and Recovery Act. The stated mission of the EPA is to protect human health and the environment and ensure that the federal government's actions to reduce environmental risks are based on the best available science. EPA sets CO₂ standards for power plants, which account for our nation's largest source of CO₂ emissions at 37% of U.S. annual emissions. EPA has authorized, and continues to authorize, installations and activities that emit prodigious amounts of CO₂, which authorizations dangerously disrupt and fail to preserve a habitable climate system—in violation of Plaintiffs' fundamental rights.

a. EPA, through the Office of Ground Water and Drinking Water and the Office of Science and Technology, exempts oil and gas producers from certain requirements of the Safe Drinking Water Act (thereby easing regulatory burdens to oil and gas development), pursuant to authority granted by Congress under the Energy Policy Act of 2005.

37. EPA abrogated its duty to implement its 1990 Plan, entitled "Policy Options for Stabilizing Global Climate," to reduce CO₂ emissions (a pollutant under its jurisdiction) in line with the best available science, and continues to allow CO₂ emissions in excess of what is necessary for climate stability.

38. That failure is not allayed by EPA's August 3, 2015, final "Clean Power Plan" because CO₂ emissions reductions projected under the "Clean Power Plan" do not even approach the rate required to preserve a habitable climate system. First, the "Clean Power Plan" affects emissions only in the power sector. Second, the "Clean Power Plan" aims for power-plant emissions reductions of only approximately 32% from 2005 levels by full implementation in 2030. Those power-plant emission reductions from 2005 levels would achieve only an 8–10% reduction in total U.S. emissions by 2030. The annualized emissions reduction rate is thus, even accepting EPA's biased math, approximately 1.25% per year, a reduction rate that is a fifth of that minimally required to preserve a habitable climate system. Moreover, nearly half of the EPA-asserted emission reduction was already realized in the 2005–2014 period, namely before the "Clean Power Plan" was finalized. Furthermore, upon information and belief, the "Clean Power Plan" will allow fossil-fuel-fired power units to continue to operate and will encourage increased investment in, utilization of, and reliance on natural gas (whose principle constituent, methane, is a highly potential greenhouse gas). The "Clean Power Plan," moreover, does nothing to halt or otherwise diminish fossil-fuel extraction, production, and exportation in the United States; fails even to return U.S. emissions to 1990 levels; and continues to allow CO₂ emissions far in excess of what is minimally required to secure a stable climate system. EPA's "Clean Power Plan," accordingly, is not an adequate or proportionally appropriate response to the climate crisis. By allowing emissions to continue at dangerous levels, EPA continues to jeopardize the climate system on which the Plaintiffs depend, now and in the future.

39. Defendant Andrew Wheeler is the current Administrator of EPA and, in his official capacity, is responsible for all actions of EPA.

40. The Defendants have permitted, authorized, and subsidized the extraction, production, transportation, and utilization of fossil fuels across the United States (and beyond). The Defendants retain the authority to limit or deny the extraction, production, transportation, and utilization of fossil fuels, and otherwise to limit or prohibit their emissions. The vastness of our nation's fossil-fuel enterprise renders it infeasible for Plaintiffs to challenge every instance of the Defendants' violations and, even if feasible, challenging each of the Defendants' actions would overwhelm the court. Nonetheless, the Defendants' liability arises in part from their aggregate actions. Those actions have substantially caused the present climate crisis. They form the predicate for Plaintiffs' allegations that current and new fossil-fuel projects, to the extent they will further raise atmospheric CO₂ levels, infringe upon Plaintiffs' constitutional rights.

41. President Donald Trump, Director Christy Goldfuss, Director Mick Mulvaney, Director Kevin Droege, Secretary Rick Perry, Secretary David L. Bernhardt, Secretary Elaine Chao, Secretary Tom Vilsack, Secretary Wilbur Ross, Secretary Patrick M. Shanahan, Secretary Mike Pompeo, and Administrator Andrew Wheeler, through their respective offices, departments, and agencies, CEQ, OMB, OSTP, DOE, DOI, DOT, USDA, Commerce, DOD, State Department, and EPA, are primarily responsible for authorizing, permitting, and incentivizing fossil-fuel production, consumption, transportation, and combustion, causing the atmospheric CO₂ concentration to increase to greater than 400 ppm and, thus, substantial harm to Plaintiffs. The Defendants have failed to preserve a habitable climate system for present and future generations, and instead have created dangerous levels of atmospheric CO₂ concentrations. The affirmative aggregate acts and omissions of the Defendants, jointly and severally, have violated and continue to violate Plaintiffs' fundamental constitutional rights to freedom from deprivation of life, liberty, and property; Plaintiffs' constitutional rights to equal protection; Plaintiffs' unenumerated inherent and inalienable natural rights; and Plaintiffs' rights as beneficiaries of the federal public trust.

42. The cause of action arose in the Tucson division.

Complaint Summary

43. Introduced into the Ninth District Court in 2015, *Juliana v. The United States* (Docket 6:15-cv-01517-AA) – hereafter referred to as *Juliana v. USA* - has established in fact a number of key arguments in relation to the role of the United States Government in allowing and encouraging climate disruption, mainly in the form of fossil fuel emissions. This atmospheric disruption is increasingly threatening the life and liberty of the Plaintiff.

44. When the initial Juliana v. USA complaint was filed in 2015 crucial information regarding the synergistic and exponentially escalating nature of climate change was less understood. The Plaintiff will present evidence that, due to the amount of greenhouse gas already permitted to enter the public atmosphere by the Defendants, future emissions reductions called for in Juliana V. USA will be gravely insufficient to avoid what are referred to by scientists as "tipping levels" – hereafter referred to as the "climate deadline" – an ecological no return beyond which a synergistic and exponential, escalation of climate-related ecological effects will place relief or remediation out of reach of human technology and ability. In other words, elements of the Earth's environmental systems, each being altered by planetary warming, will begin to interact causing a much more rapid escalation in the Earth's ecological balance. Observational data from NASA, NOAA and other monitoring agencies already show major changes such as ocean currents slowing and altering, methane stores being released from beneath disappearing polar ice, disease vectors altering and exposing populations without the generations necessary to adapt and build immunity, land and ocean species die-off accelerating much more rapidly than anticipated, weather patterns becoming more destructive costing hundreds of billions of dollars in cleanup and mitigation efforts, mass poleward migrations happening across the globe creating intense pressure of immigration systems and social upheaval, novel carbon-releasing microbes emerging in the soil (Earth's largest repository of carbon), and a widening breach between plants and pollinators.

45. Geologists report fossil and other evidence that these same changes in Earth's ecological systems preceded, and probably initiated, prior massive shifts in planetary conditions leading to mass extinction of land, air and aquatic species. When the changes noted in paragraph 40 reach a "tipping level" it will become impossible to reverse the course of planetary change. In other words, a climate deadline will have been reached. Historical records indicate this climate deadline occurs at approximately 450 ppm atmospheric carbon saturation which is now projected to occur prior to the mid-2030's. These are actual geologic records correlated with known earth behavior, not computer simulations. We know for a certainty that, in the past, at 450 ppm atmospheric carbon is correlated with massive and irreversible extinction events. This, then is the "climate deadline" beyond which no reparation on the part of the Defendants will be feasible making this Plaintiffs suit urgently and highly time-dependent with a very short clock.

46. As do the Plaintiffs in Juliana v. USA, the current Plaintiff asserts that through its policies and actions the US Government has ignored its regulatory responsibilities and allowed and encouraged a global warming situation dangerous to the life and liberty of all US Citizens. The current action, however, takes into account new understanding that (1) Mitigation and emissions reductions, while possibly effective in the middle of the past century, are no longer viable relief - that only active atmospheric carbon removal can hope to address our grievances and (2) Emergency Relief is needed to initiate atmospheric carbon removal long before the climate deadline in the mid-2030's.

Complaint in Detail

47. In recent years, the United States has experienced an unnaturally rapid increase in events causally linked to the disruption of the Earth's atmospheric envelope. These catastrophic events include the destruction of American homes and businesses; the displacement of millions of United States citizens; damage to infrastructure leading to an unsustainable drain on the national treasury; the disruption of animal, insect, and aquatic ecosystems necessary for human survival; increased physical and mental disease and disorder; and the tragic loss of human life, among other harms.

48. Research, observations, and records have now clearly traced these emissions to businesses operating in the United States, among other countries.

49. The essential role of business is to generate financial profits for owners, employees and shareholders. Democratic government is chartered with the responsibility of providing for the good order and management of society, and specifically development and deployment of laws, treaties, and other regulatory policies that do not infringe upon or endanger the constitutional rights of citizens to liberty, property, and life.

50. Plaintiff contends that the United States of America and its organs and agents have willfully ignored its own findings and scientific consensus regarding the known effects of releasing large amounts of greenhouse gases (GHG), in particular carbon (CO₂) emissions, into the atmosphere. The Plaintiff contends the Defendants have, in their negligence in fact promulgated legislation, regulation, procedure, and policy leading to an increase in dangerous GHG while simultaneously rolling back existing regulations and practices directed at addressing and minimizing anthropogenic climate change and thus have infringed upon and endangered the constitutional rights of the citizenry to liberty, property, and life. These procedural actions violate the Constitution of the United States of America, which enjoins the Government and its organs from engaging in laws, treaties, regulations, or other actions that deprive its citizens of their right to liberty, property, and life.

51. The Government has ignored accepted facts, research data, and reliable principles and methods arising out of scientific, technical, and specialized knowledge about global warming. In doing so, the Defendants have acted with reckless and deliberate indifference to the established clear and present dangers of climate change, knowingly increasing its scope and impact and

resulting in damages, death, and destruction. In spite of warnings from their own scientific community, the Defendants have refused to establish regulations and remedial actions to reduce emissions contributing to the unnaturally rapid warming of and other anthropocidal changes in the protective planetary atmosphere and ecology of our country, thereby deliberately and willfully in rem endangering the welfare and constitutional rights of United States citizens.

52. For many decades, the United States Government (USG) has been aware of the problem and consequences of global warming and yet continued to pursue actions exacerbating these dangers. In a 1965 White House report, *Restoring the Quality of Our Environment*, for example, the President's Science Advisory Committee stated:

“The land, water, air and living things of the United States are a heritage of the whole nation. They need to be protected for the benefit of all Americans, both now and in the future. The continued strength and welfare of our nation depend on the quantity and quality of our resources and on the quality of the environment in which our people live.”

The United States Environmental Protection Agency (EPA) in 1990 and the Congressional Office of Technology Assessment (OTA) in 1991 prepared plans to reduce significantly our nation's CO₂ emissions, stop global warming, and stabilize the climate system for the benefit of present and future generations. Both the EPA's 1990 plan, “Policy Options for Stabilizing Global Climate,” and the OTA's 1991 plan, “Changing by Degrees: Steps to Reduce Greenhouse Gases,” were prepared at the request of, and submitted to, Congress. Despite the imminent climate-change dangers identified in both the EPA's 1990 Plan and the OTA 1991 Plan, the Defendants never implemented either plan.

53. Mindful of these facts, returning the Plaintiff complaint to the Executive and Legislative branches of Government would be akin to placing the hen back in the foxes' den. The United States Government and its organs have repeatedly demonstrated a disregard for public safety and a willingness to placed citizens, including the Plaintiff in harm's way. These are in fact the very entities which the Plaintiff is seeking protection from. Only this Court can provide the shelter and protection so far denied the Plaintiff by the Executive and Legislative Branches.

54. A scientific consensus now exists establishing a reasonable expectation that, prior to the year AD 2035 (+5yrs), the damages to Earth's atmosphere will have reached “tipping levels,” whereupon the life-sustaining ecological conditions dependent upon the atmosphere will

have been degraded and altered to the extent that, given the current trajectory of scientific advancement, no reparation or remedy will be possible. Thus, the Defendants not only have an obligation to affirmatively to correct the current atmospheric damage caused by their regulatory, legislative, administrative, and procedural actions, but also have an obligation to do so in a manner that accomplishes these reparations prior to the onset of the mid-2030's climate deadline.

55. Since 1990, the Defendants have known (a) that GHG, and particularly CO₂ levels in the atmosphere, must be stabilized at or below 350 parts per million (ppm) in order to protect our nation's climate system and (b) that a swift transition away from fossil fuels was necessary. Twenty-five years later, today's best science confirms that 350 ppm is the maximum safe level of atmospheric CO₂ that will permit restoration of a stable climate system. The Defendants have for decades ignored the very experts they commissioned to evaluate the danger to our nation, as well as the Defendants' own plans for stopping dangerous climate-system destabilization. Specifically, the Defendants have known of the unusually high risks of harm to human life, liberty, and property that would be caused by continued fossil-fuel burning. Yet the Defendants have willfully ignored this impending harm. By their exercise of sovereign authority over our country's atmosphere and fossil-fuel resources, the Defendants permitted, encouraged, and otherwise enabled the continued exploitation, production, and combustion of fossil fuels. By and through their aggregate actions and omissions, the Defendants deliberately allowed atmospheric CO₂ concentrations to escalate to levels unprecedented in human history, resulting in the dangerous destabilizing of the climate system for our nation and this Plaintiff. The 1965 Report and the 1990 and 1991 Plans are only examples of the extensive knowledge the Defendants have had about the dangers they caused to present and future generations, including Plaintiffs. Since 1965, numerous other studies and reports also have informed the Defendants of the significant harms that would be caused if the Defendants did not reduce reliance on carbon-intense energy from fossil fuels and rapidly transition to carbon-free energy. These studies and reports concluded that continued fossil-fuel dependency would drive the atmospheric concentration of CO₂ to dangerous levels that would destabilize the climate system.

56. Yet rather than implement a rational course of effective action to phase out carbon pollution, the Defendants have continued to permit, authorize, and subsidize fossil-fuel extraction, development, consumption and exportation—activities producing enormous quantities of CO₂ emissions that have substantially caused or contributed to the increase in the atmospheric

concentration of CO₂. Through its policies and practices, the federal government bears a higher degree of responsibility than any other individual, entity, or country for exposing the Plaintiff to the present dangerous atmospheric CO₂ concentration. In fact, the United States is responsible for more than a quarter of global historic cumulative CO₂ emissions.

57. The present level of CO₂ and its warming effect, both realized and latent, are already in the zone of danger. The Defendants have acted with deliberate indifference to the peril they knowingly created. As a result, the Defendants have infringed on the Plaintiffs' fundamental constitutional rights to life, liberty, and property.

58. This Court is the Plaintiffs' last resort to ensure his reasonable safety, and that of our Posterity, from the harm perpetrated by the Defendants. An extremely limited amount of time remains to preserve a habitable climate system for our country.

59. The current policies, plans, and practices of the federal government will not achieve even a proportionate share of the fossil-fuel emission reductions that must occur. To the contrary, the Defendants' policies, plans, and practices permit, authorize, and subsidize fossil-fuel exploitation and consumption and thus press our climate system further toward irretrievable impacts.

60. The Plaintiffs pray this Court will order the Defendants to cease their permitting, authorizing, and subsidizing of fossil fuels and instead move swiftly to phase out CO₂ emissions. Of greatest importance, the Defendants ask this Court to compelled the Government to develop, subsidize, and manage a scientifically viable program for directly removing anthropotoxic carbon which they have allowed to enter the atmosphere through generations of the Defendants' action and inaction, reducing carbon to a safe level of no more than 350ppm and, if needed, reestablish protection for citizens from solar radiation in the form of stratospheric reflectivity and, or ozone layer repair. Available scientific evidence supports only one program with a sufficiently high level of efficacy and safety for accomplishing this carbon removal: Ocean Assisted Carbon Capture & Reflection (OACC&R) and this program will be discussed in the Appendix. The Plaintiff comes before this Court to secure his fundamental rights under the Constitution, before it is too late.

The Federal Government Has Known for Decades That Carbon Dioxide Pollution Was Causing Catastrophic Climate Change and That Massive Emission Reductions and A Nation-Wide Transition

Away from Fossil Fuels Was Needed to Protect Plaintiffs’ Constitutional Rights.

61. As early as 1899, scientists understood that CO₂ concentrations in the atmosphere cause heat retention on Earth and that a doubling or tripling of the CO₂ content in 1899 would significantly elevate Earth’s surface temperature. Scientists also understood that CO₂ was the determinative factor for global heating. By the turn of the 20th Century, it was widely accepted in the scientific community that increasing the atmospheric concentration of CO₂ could cause global climate change.

62. By 1965, the Executive Branch reported that anthropogenic pollutants, including CO₂, impair our nation’s economy and its quality of life. In the 1965 report of President Lyndon Johnson’s scientific advisors, “Restoring the Quality of Our Environment,” the White House confirmed that anthropogenic pollutants, including CO₂, threaten “the health, longevity, livelihood, recreation, cleanliness and happiness of citizens who have no direct stake in their production, but cannot escape their influence.”

63. For 50 years, the Executive Branch has known that “pollutants have altered on a global scale the CO₂ content of the air” through “the burning of coal, oil and natural gas.” The Executive Branch predicted that CO₂ “will modify the heat balance of the atmosphere to such an extent that marked changes in climate, not controllable though local or even national efforts, could occur.” The Executive Branch warned that “carbon dioxide [gases] are accumulating in such large quantities that they may eventually produce marked climatic change.”

64. Fifty years ago, the Executive Branch described the marked climatic changes from CO₂ pollution as including the melting of the Antarctic icecap, rising sea levels, warming oceans, acidifying waters, and additional releasing of CO₂ and methane due to these events. It recommended reducing the heating of the Earth because of the extraordinary economic and human importance of our climate system.

65. Fifty years ago, the White House recommended that a tax system be implemented to tax polluters, including air pollution, “in proportion to their contribution to pollution” to incentivize pollution reduction.

66. In 1969, Patrick Moynihan, then Advisor to President Nixon, wrote a letter to White House counsel John Ehrlichman stating that CO₂ pollution resulting from burning fossil fuels was

a problem perhaps on the scale of “apocalyptic change,” threatening the loss of cities like New York and Washington D.C. from sea level rise. The 1969 Moynihan letter urged the federal government to immediately address this threat. In 1978, Congress passed the National Climate Program Act “to establish a national climate program that will assist the Nation and the world to understand and respond to natural and man-induced climate processes and their implications.” 15 U.S.C. § 2901(3).

67. On June 23, 1988, Dr. James Hansen, then Director of NASA’s Institute for Space Studies and a leading climate scientist in the federal government, testified before Congress that carbon pollution in the atmosphere was causing global warming and that impacts were already being observed.

68. Around the time of Dr. Hansen’s testimony, Congress directed its own offices and the EPA to separately prepare reports on how to stabilize the global climate system and transition our country away from the use of fossil fuels.

69. In response, in December 1990, EPA submitted a report to Congress on “Policy Options for Stabilizing Global Climate.” The EPA’s 1990 Report concluded: “responses to the greenhouse problem that are undertaken now will be felt for decades in the future, and lack of action now will similarly bequeath climate change to future generations.”

70. The EPA’s 1990 report called for a 50% reduction in total U.S. CO₂ emissions below 1990 levels by 2025. EPA explained that such reductions were the only pathway to achieve Congress’ goal of stopping global warming and stabilizing the climate system. The EPA’s 1990 Report also called for stabilizing atmospheric CO₂ concentrations at 350 ppm, the current level of that time, a response to the congressional objective that total global warming not exceed 1.5° C above the preindustrial level. In its 1990 Report, EPA confirmed the Executive Branch’s findings from 1965 that CO₂ was a “dangerous” pollutant.

71. In 1991, promptly following EPA’s 1990 Report, the Congressional Office of Technology Assessment (OTA) delivered to Congress its own report, “Changing by Degrees: Steps to Reduce Greenhouse Gases.” Finding the United States was the single largest contributor to carbon pollution, the OTA’s 1991 Report developed “an energy conservation, energy-supply, and forest-management package that can achieve a 20- to 35-percent emissions reduction” through a mix of regulatory and market-based federal policies, in order to prevent global warming and climate change. OTA reported that, if its “package” was implemented, the federal government

could lower CO₂ emissions 35% from 1987 levels by 2015 and possibly save the federal government \$20 billion per year. OTA determined that the 35% necessary reduction in CO₂ emissions was only the beginning and further efforts in the 21st century would be required to stabilize our nation's climate system.

72. The OTA's 1991 Report stated that major reductions of CO₂ would require significant new initiatives by the federal government and must be sustained over decades, even before all the scientific certainties are resolved: "[I]t is clear that the decision to limit emissions cannot await the time when the full impacts are evident. The lag time between emission of the gases and their full impact is on the order of decades to centuries; so too is the time needed to reverse any effects." The OTA's 1991 Report informed Congress that the level of emission reductions needed would require the country to wean itself from fossil fuels. OTA also urged that, while global warming was a problem on a global scale, U.S. leadership was critical to solving the problem and would seriously impact what happened around the globe.

73. Concluding that actions would be required across the federal government, both the EPA's 1990 Report and the OTA's 1991 Report concluded that an essential component of reducing CO₂ emissions was implementing a rising carbon tax (145). On October 15, 1992, following receipt of the EPA and OTA Reports, the Senate ratified the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC was executed to "protect the climate system for the benefit of present and future generations of humankind." The UNFCCC evidences an "overwhelming weight" of support for protection of the atmosphere under the norms and principles of intergenerational equity. UNFCCC, Art. 3. The minimal objective of the UNFCCC is the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner." UNFCCC, Art. 2.

74. The recommendations in the EPA's 1990 Report (Policy Options for Stabilizing Global Climate") and the OTA's 1991 Report ("Changing by Degrees: Steps to Reduce Greenhouse Gases") were never implemented. U.S. fossil-fuel production, consumption, and combustion all continued to accelerate at dangerous speeds for decades.

75. On December 7, 2009, nearly 17 years after the United States ratified the UNFCCC, the then Administrator of EPA, Lisa Jackson, issued EPA's formal endangerment finding under the Clean Air Act. The finding stated that current and projected atmospheric concentrations of greenhouse gases—including CO₂—threatened the public health and welfare of current and future generations. EPA issued its endangerment determination only after being compelled to do so by the U.S. Supreme Court in *Massachusetts v. EPA*, 549 U.S. 497 (2007).

76. On January 2, 2011, EPA commenced partial regulation of greenhouse gases under the Clean Air Act from mobile and stationary sources of air pollution.

77. More than two decades have passed since the EPA's 1990 Report and the OTA's 1991 Report were issued to Congress. Little has been accomplished in the way of phasing out emissions even though, as DOE admits in its strategic plan, "our responsibility to future generations is to eliminate most of our carbon emissions and transition to a sustainable energy future."

78. During the last decade, the Defendants have repeatedly stated that allowing "business as usual" CO₂ emissions will imperil future generations with dangerous and unacceptable economic, social, and environmental risks. As the Defendants have acknowledged, the use of fossil fuels is a major source of these emissions, placing our nation on an increasingly costly, insecure, and environmentally dangerous path.

Despite the Known Danger, The Defendants Caused Climate Instability and Allowed U.S. Fossil-Fuel Extraction, Production, Consumption, Transportation, And Exportation and Associated Emissions to Increase Dangerously.

79. Between 1751 and 2014, the United States has been responsible for emitting 25.5% of the world's cumulative CO₂ emissions to the atmosphere from within its borders. Those emissions do not account for the embedded emissions in imported goods and materials that are consumed in the United States. the Defendants enabled and permitted those cumulative emissions.

80. In the last fifty years, total U.S. production and consumption of fossil fuels drastically increased.

81. Acting with deliberate indifference, the Defendants have not implemented or complied with the EPA's 1990 Report and the OTA's 1991 Report to reduce carbon pollution from fossil fuels, stop global warming, and protect the climate system for future generations. Had the Defendants followed the EPA's 1990 Report and the OTA's 1991 Report, CO₂ emissions today would be reduced by 35% from 1987 levels. Instead, since 1991, the Defendants have knowingly allowed at least an additional 130,466 million metric tons of CO₂ emissions from fossil-fuel combustion.

82. Accordingly, instead of pursuing their own plans to slash emissions and reduce the risk of dangerous climate change, the Defendants knowingly acted to exacerbate that risk and impose harm on the nation and on the Plaintiff.

83. Total fossil-fuel production in the U.S. climbed to 65.244 quadrillion Btu in 2014, up substantially from such consumption in 1965.

84. Total fossil-fuel energy consumption in the U.S. climbed to 80.366 quadrillion Btu in 2014, up substantially from such consumption in 1965.

85. Fossil-fuel emissions from energy consumption in the U.S. climbed to 5.4 billion metric tons of CO₂ in 2014, up substantially from such emissions in 1965.

86. In 2011, fossil-fuel combustion in the U.S. accounted for 94% of CO₂ emissions.

87. The above emissions figures are from U.S. government sources and, regrettably, underreport the amount of emissions that the Defendants' actions have substantially caused. EPA uses a sector-based emission inventory, upon which the other Defendants also rely. A sector-based emission inventory accounts only for in-boundary emissions, and not those attributed to embedded emissions—emissions that account for the consumption of goods imported to the U.S. The Defendants have not provided a national consumption-based inventory for CO₂ emissions, which would include all embedded CO₂ emissions for goods produced outside of the U.S. and consumed within the U.S.

88. In 2012, the U.S. was the largest producer of natural gas, producing a total that year of 24,058 billion cubic feet. Also, in 2012, the U.S. was second in "Total Primary Coal Production," with 1,016,458 thousand short tons; second in "Total Primary Energy Production," producing 79.212 quadrillion Btu; and second in "Total Primary Energy Consumption," consuming 95.058 quadrillion Btu.

89. In 2014, according to the United States Energy Information Administration (EIA), the U.S. was the largest producer of total petroleum and other liquids with 13,973 thousand barrels produced per day.

90. The U.S. is by far the dominant producer of both shale gas and tight oil in the world. Also, the U.S. is one of four countries in the world that is producing commercial volumes of either natural gas from shale formations (shale gas) or crude oil from shale formations (tight oil).

91. The aggregate actions by the Defendants in allowing fossil-fuel production, consumption, and emissions to increase in the United States since 1965 ignored science-driven considerations of climate-system protection. These aggregate actions were taken with deliberate indifference to the need for a national carbon budget or a national plan that includes an analysis of the cumulative impacts of the Defendants' actions upon the climate system and with respect to the fundamental rights of the present and future generations.

Defendants Have Allowed Excessive Fossil-Fuel Production on Federal Public Lands

92. In 2013, more than 25% of all fossil fuels extracted in the U.S. originated on federal public lands.

93. In 2014, Defendant United States through the President, DOI through BLM, DOD through Army Corps of Engineers, and EPA, authorized and oversaw the sale of 421 million tons of coal from federally leased lands.

94. Since January 1990, DOI through BLM has leased 107 coal tracts, and associated coal production and revenues have grown. In 2015, the BLM reported that approximately 40% of all coal produced in the United States comes from federal lands. The United States has more coal deposits available than any other fossil-fuel resource within its borders and, as of 2015, has 28% of the world's coal reserves.

95. In 1985, there were 18,849 recorded federal producing oil and gas leases issued by DOI through BLM. By 2014 there were 23,657 recorded federal producing oil and gas leases issued by DOI through BLM.

96. As of June 2014, DOI's BLM has authorized approximately 47,000 oil and gas leases on public lands, and approximately 95,000 oil and gas wells, with an additional 3,000 wells

drilled annually by the oil and gas industry. The BLM oversees approximately 700 million subsurface acres of mineral estate. There are currently 36 million acres of federal land under lease for potential fossil-fuel development in 33 states, pursuant to DOI's BLM authorization.

97. From 2009 to 2011, the President and DOI through BLM processed more applications for permits to drill oil and gas, despite receiving far fewer applications, than the prior administration from 2006-2008.

98. Since 1985, DOI through BLM has issued between 1,486 to 6,617 permits annually to drill on federal lands. BLM has approved approximately 99% of all received applications for permits to drill, without taking into consideration that such permits would endanger Plaintiff or increase Plaintiffs' susceptibility to harm.

Defendants Subsidize the Fossil-Fuel Industry

99. In addition to leasing federal public lands for fossil-fuel exploitation, the United States subsidizes, funds, and subsidizes fossil-fuel production and consumption.

100. The United States subsidizes the fossil-fuel industry by undervaluing royalty rates for federal public leasing, as well as through royalty relief resulting in the loss of billions of dollars of foregone revenue. U.S. royalty rates are consistently less than state royalty rates. For example, Texas's royalty rate for leasing is double the federal percentage.

101. Through 11 federal fossil-fuel production tax provisions, the United States incurs approximately \$4.7 billion in annual revenue costs. Through a fossil-fuel consumption subsidy, the United States annually forgoes approximately \$3.4 billion in revenue.

102. The United States provides approximately \$5.1 billion per year in tax provision subsidies to support fossil-fuel exploration.

103. Two tax-code provisions for the benefit of the fossil-fuel enterprise were introduced in the early 1900s. These provisions are still in place today, resulting in substantial revenue losses. The "intangible drilling costs" provision was introduced in 1916, 26 U.S.C. §263(c); in 1926, the "percentage depletion allowance" provision was introduced, 26 U.S.C. § 613.

104. According to the International Monetary Fund (IMF), the United States is the world's top subsidizer of fossil fuels, in absolute terms, in the amount of \$502 billion per year, which includes the IMF's accounting of negative externalities.

105. The United States has supported fossil-fuel development through overseas public financing, primarily through the Export-Import Bank of the United States, an agency of the Office of the President. For example, through the Export-Import Bank of the United States, the Office of the President provided \$14.8 billion in commitments for 78 transactions or projects in the petroleum sector, including 49 transactions in Latin American, 14 in Africa, six in Russia/FSU, five in the Middle East, and four in Asia. In fiscal year 2010, the Export-Import Bank of the United States provided approximately \$3 billion in financing for the Papua New Guinea LNG Project or Papua New Guinea Liquefied Natural Gas Project and \$18 million for the Sangatta Surface Coal Mine in Indonesia. The Export-Import Bank of the United States also supported numerous coal and gas power plants.

106. The United States supports fossil-fuel development by allowing the fossil-fuel industry to avoid the true social cost of CO₂ emissions from fossil fuels. Based on EPA's social cost of carbon estimates, CO₂ emissions from fossil fuels have the potential to cause trillions of dollars in damages.

Defendants Recklessly Allow Interstate and International Transport Of Fossil Fuels

107. Despite knowledge of the harm to Plaintiffs caused by the CO₂ emissions from fossil fuels, the Defendants recklessly allow all interstate transport of fossil fuels. Despite knowledge of the harm to Plaintiff caused by the CO₂ emissions from fossil fuels, the Defendants recklessly authorize and/or permit the exportation and importation of fossil fuels and/or the facilities allowing the exports and imports of fossil fuels.

108. The Office of the President exercises permitting authority over the construction and operation of "pipelines, conveyor belts, and similar facilities for the exportation or importation of petroleum, [and] petroleum products." President has failed to dismantle the U.S. fossil-fuel edifice, adding an additional 100,000 miles to the 2.5 million miles of oil and gas pipelines within the nation.

109. A presidential exemption or federal license is required for all exports of crude oil to all destinations. In 2014, DOE oversaw the importation of 2,677,911 thousand barrels of crude

oil, and Commerce through BIS authorized the exportation of 126,152 thousand barrels of crude oil, both increases from 2013.

110. No natural gas can be exported or imported without DOE authorization through FERC. FERC permits all LNG export terminals, including Jordan Cove LNG Terminal. Since 1995, the U.S. has imported 71,730 Bcf of natural gas and exported 14,623 Bcf. In 2014, through DOE's authorization, 51,824 thousand barrels of natural gas plant liquids and liquefied refinery gases were imported, and 257,948 thousand barrels of natural gas plant liquids and liquefied refinery gases were exported.

111. Although in 1975 Congress authorized the Office of the President to restrict coal exports under the Energy Policy and Conservation Act of 1975, 42 U.S.C. § 6212(a), the President has not exercised this authority to impose any significant export restrictions on coal. In fact, since 1990, the United States has promoted expanding coal exports. Coastal facilities through which coal may be exported are subject to federal approvals. In the Pacific Northwest alone, three new marine coal terminal projects are under various stages of federal permitting and review.

112. In 2011, the U.S. exported 107 million short tons of coal. In 2012, U.S. coal exports totaled 125 million short tons, the highest level of coal exports in over twenty years.

Defendants Have Recklessly Allowed Dangerous Levels of CO₂ Pollution to Build Up From The Combustion Of Fossil Fuels

113. Either directly or through the control of the federal government, the Defendants authorize the combustion of all fossil fuels in the U.S., including coal, oil, and gas. Such combustion occurs primarily in the energy and refineries sector, the transportation sector, and the manufacturing sector.

114. It is now broadly accepted that anthropogenic climate change presents a serious threat to the health, prosperity, and stability of human communities, and to the stability and existence of non-human species and ecosystems. The international legal framework established in 1992 to prevent dangerous anthropogenic interference with the climate system has focused attention on the role of nation-states and has led to commitments by many nation-states (particularly the Annex I or highly developed nations) to cut their greenhouse gas (GHG) emissions.

115. Quantitative analysis has been conducted of the historic fossil-fuel and cement-production records of the 50 leading investor-owned, 31 state-owned, and 9 nation-state producers of oil, natural gas, coal, and cement from as early as 1854 to 2010. This analysis traces emissions totaling 914 GtCO₂e—63% of cumulative worldwide emissions of industrial CO₂ and methane between 1751 and 2010—to the 90 “carbon major” entities based on the carbon content of marketed hydrocarbon fuels (subtracting for non-energy uses), process CO₂ from cement manufacture, CO₂ from flaring, venting, and own fuel use, and fugitive or vented methane. Cumulatively, emissions of 315 GtCO₂e have been traced to investor-owned entities, 288 GtCO₂e to state-owned enterprises, and 312 GtCO₂e to nation-states. Of these emissions, half have been emitted since 1986 during the period in which the United States government was fully aware of the dangers posed by GHG generated global warming.

116. In 2012, petroleum accounted for 36.5% of the total primary energy consumption in the U.S., the single largest source of energy consumption. All U.S. petroleum refineries are permitted and regulated by EPA. In 2013, fossil-fuel combustion from various industrial processes accounted for approximately 15% of total CO₂ emissions in the United States. The EPA regulates these industrial processes.

117. The DOE establishes efficiency standards in buildings and appliances. These standards affect levels of energy consumption and combustion.

118. Since 1975, through the Corporate Average Fuel Economy (CAFE) program, the United States has required manufacturers of vehicles sold in the U.S. to comply with fuel economy standards set by DOT. By controlling the fuel economy standards, the Defendants have exercised control over CO₂ emissions in the transportation sector.

119. From 1996 to 2014, through tax breaks, the United States subsidized the purchase, and thus increased demand for, vehicles weighing more than 6,000 pounds (SUVs). SUVs are less fuel efficient and emit greater quantities of CO₂ per mile than lighter-weight vehicles, other factors held equal.

120. In 2012, U.S. CO₂ equivalent emissions from transportation were 1,837 million metric tons. In 2012, CO₂ equivalent emissions from transportation of all vehicles in the U.S., including aviation, passenger cars, SUVs, heavy-duty trucks, freight rail, ships, and boats, were responsible for 28% of total U.S. greenhouse gas emissions.

121. Enacted in 1992, Section 201 of the Energy Policy Act mandates the authorization of natural gas imports from, or exports to, a nation with which the United States has a free trade agreement, without modification or delay, to any person applying for such authorization. Accordingly, under the Energy Policy Act, such natural gas imports and exports are automatically deemed consistent with the public interest. 15 U.S.C. § 717b(c).

The Window for Correcting Climate Disruption Due to Greenhouse Gas Emissions Permitted by The Defendants Is Closing Even as the Cost in Human Life and National Fiscal Expense is Increasing

122. Greenhouse gases in the atmosphere act like a blanket over the earth, trapping energy received from the sun. Well-documented and observable impacts from the changes in Earth's climate system highlight that the current level of atmospheric CO₂ concentration has already taken our nation into a danger zone. Increased CO₂ emissions are already resulting not only in the warming of land surfaces, but also in the warming of oceans, increasing atmospheric moisture levels, rising global sea levels, and changing rainfall and atmospheric air circulation patterns that affect water and heat distribution. One key observable change is the rapid increase in recorded surface temperatures. As a result of increased atmospheric CO₂ from human activities, our nation has been warming as scientists predicted as early as 1965. The increased concentrations of greenhouse gases in our atmosphere have raised global surface temperature by approximately 0.9°C. In the last 30 years, earth has been warming at a rate three times faster than that over the previous one hundred years. Each progressive year is declared "the hottest year on record", according to the National Aeronautics and Space Administration (NASA).

123. New research at the Department of Earth and Environmental Sciences and Museum of Paleontology, University of Michigan, Ann Arbor has found that humans are pumping nearly 10 times more carbon dioxide into the atmosphere than what was emitted during Earth's last major warming event, called the Paleocene-Eocene Thermal Maximum (PETM). In 2013, the atmospheric CO₂ concentration exceeded 400 ppm for the first time in recorded history. The pre-industrial concentration was 280 ppm. March 2015 was the first month in which the monthly global average concentration of CO₂ was 400 ppm for an entire month, reaching levels that have

not been seen for about three million years. CO₂ concentrations have risen more than 120 ppm since pre-industrial times, with half of that rise occurring since 1980

124. In 2017, unnaturally rising ocean temperatures and vastly increased amounts of water in the airstream overhead helped to spawn Hurricane Harvey. (Hurricanes now last over 60% longer and have peak winds 50% greater than only a generation earlier.) The devastating super-storm left Houston and 50 counties around it submerged and battered. More than 30,000 people fled to shelters, 21.5% of oil production and 23.2% of natural gas production has shut down, and there remains estimated \$180 billion dollars in damage. Hurricane Irma—the most powerful Atlantic Ocean hurricane ever recorded, with wind speeds over 185 miles per hour—evacuated 5.6 million people from Florida, left millions without power, and destroyed thousands of homes. In the United States, all of the Virgin Islands and Puerto Rico remained without power for months, and, in many areas, also without drinking water—including all of the hospitals on Puerto Rico.

125. Worldwide, the United Nations is currently reporting that 65.9 million people are forcibly displaced as a result of “climate-related disasters”—not including those persons even now being forced to relocate in high latitudes as a result of ice-sheet melting.

126. Recent scientific reports warn of the disintegration of both the West Antarctic ice sheet and the East Antarctic ice sheet, causing multi-meter sea-level rise. NOAA reports that this year’s Arctic ice “shows no sign of returning to a reliably frozen state.” Such a shift will devastate coastal regions, including much of the Eastern Seaboard. Millions of Americans and trillions of dollars in property damage will result. On the current trajectory, 50% of the world’s population in coastal areas are expected to experience major flooding by the year 2070. In addition to the lives lost, the economic impact would be devastating. For example, New York City, with real estate valued at \$120 billion, currently lies in the flood zone. In 2012, Hurricane Sandy caused billions of dollars in damage, including flooding the 9/11 Memorial with seven feet of water. Tomas Regalado, mayor of the City of Miami, stated in 2016, “Anyone who thinks that the topic of climate change is a partisan issue is not focused on the reality which we as public officials and citizens are dealing with. This is a crisis that grows day by day.”

127. The fire season of the American West (including Arizona, where Plaintiff Komor resides) is already 150 days longer than it was 50 years ago. Increased wildfires, shifting precipitation patterns, higher temperatures, and drought conditions also threaten forest industries and private property. In the U.S., 72,000 wildfires have been recorded, on average, each year since

1983. Nine of the 10 years with the largest acreage burned have occurred in the 14 years since 2000 (246). In an EPA-funded study, “Ensemble Projections of Wildfire Activity and Carbonaceous Aerosol Concentrations Over the Western United States in the Mid-21st Century,” scientists estimated that, by 2050, wildfire activity is expected to double in the Southwest, Pacific Northwest, Rocky Mountains Forest, and the Eastern Rockies/Great Plains regions. In the western U.S., increases in temperature are projected to cause an increase of 54% in annual mean area burned by 2050 relative to the present day. Changes in area burned are ecosystem dependent, with the forests of the Pacific Northwest and Rocky Mountains experiencing the greatest increases of 78% and 175%, respectively. Increased area burned results in near doubling of wildfire carbonaceous aerosol emissions by midcentury. So far, the death toll as a result of a single fire in Northern California, the Camp Fire, now stands at 83, most of the victims burned alive – burned alive. According to the Butte County Sheriff's Department, 563 people remain unaccounted for. The Camp Fire has burned more than 153,000 acres and has destroyed more than 13,000 residences, as well as 514 commercial structures and more than 4,000 other buildings. Asking for help fire officials are stressing the connection between Climate Change and increasingly deadly and extensive fires. Over 137 deadly wildfires burned more than 1,830,00 acres in the Western United States during the 2017 fire season alone.

128. Heat waves are 150 times more frequent than in pre-industrial times and often reach levels over 120 degrees Fahrenheit. If business continues as usual, heat waves will increase in frequency, severity, and duration. For example, by the end of this century, if the Defendants do not dramatically reduce emissions, the number of heat-wave days in Los Angeles is projected to double, and the number of heat-wave days in Chicago to quadruple, resulting in many more deaths.

129. While potential climate change impacts on water resources vary between regions, the western states will be particularly impacted by drought, reduced precipitation, increased evaporation, and increased water loss from plants.

130. The Defendants, through the Department of Homeland Security, have acknowledged mass human migrations are a potential impact of climate change, and have developed a mass migration plan. Estimates put the number of climate-induced migrants worldwide at 200 million by 2050. Rather than addressing the causative problems inhuman practices in immigration control have been instituted.

131. Mud slides have increased by 400% since the 1950s.

132. So-called "atmospheric rivers" have caused seven "thousand-year flood events" in the past seven years.

133. Arctic sea ice is declining precipitously and is expected to disappear completely in the coming decades. In 2013, Arctic sea ice extent for September was 700,000 square miles below the 1981–2010 average for the same period. In 2014, the Arctic sea ice extent for September was 463,000 square miles below average. In 2015, the maximum extent of the Arctic sea ice was the lowest in the satellite record. We cannot wait until century's end, because the predicted tipping point of the "big splash," or the final collapse of these three polar ice sheets, will be in the 2030s. With less sea ice, less solar radiation is reflected back to space, a positive feedback loop serving to amplify regional and global warming.

134. Fifty percent of the world's population in coastal areas are expected to experience major flooding by the year 2070. In addition to the lives lost, the economic impact, as mentioned above in item 117, would be devastating. Our country's sea levels have also risen from glacial and ice cap melting, as well as from the thermal expansion of the ocean itself. Based on measurements taken from 1993 to 2010, sea levels have been rising at an average rate of 3.2 millimeters per year. Though sea levels rose about 170.18 millimeters (0.2 meters) over the last century, within the last decade, the rate of sea-level rise has nearly doubled. Rising seas have caused and will cause flooding in coastal and low-lying areas. The combination of rising sea levels and more severe storms creates conditions conducive to severe storm surges during high tides. In coastal communities, these surges can overwhelm levees and sea walls, as witnessed during Hurricane Katrina, Hurricane Sandy, and other major storms. Today, rising sea levels are submerging low-lying lands, eroding beaches, converting wetlands to open water, exacerbating coastal flooding, and increasing the salinity of estuaries and freshwater aquifers. Between 1996 and 2011, twenty square miles of land were inundated by rising sea levels along the Atlantic coast. Coastal states, such as Maryland and Louisiana, are experiencing wetland loss due to rising sea levels. Scientists have predicted that wetlands in the mid-Atlantic region of the U.S. cannot withstand a seven-millimeter per year rise in sea levels.

135. Air pollution now kills 6.5 million people yearly. By 2040, some allergens will have increased by 200%, with grams of pollen increasing from 8,455 grains per cubic meter to 21,735 grains per cubic meter. By 2050, climate change is expected to add thousands of additional premature deaths per year nationally from combined ozone and particle health effects. Higher

surface temperatures, especially in urban areas, promote the formation of ground-level ozone, which has adverse impacts on human health by irritating the respiratory system, reducing lung function, aggravating asthma, and inflaming and damaging cells that line the airways. Climate change is expected to increase the frequency of high-ozone pollution events by 50% to 100% by 2050.

136. In 2015, the Lancet Commission on Health and Climate Change stated, “Climate change is a medical emergency.” Natural ecosystems are being disrupted in ways that make it easier for infectious disease to develop and spread. Even slight increases in temperature can lead to dramatic increases in microbes. Increasing temperatures and precipitation factors enable disease carrying insects such as mosquitoes to expand their range, reproduce more often, and increase their metabolism so they feed more frequently.

137. Extreme heat events now cause more deaths annually in the United States than all other extreme weather events combined. Most at risk are the elderly and disabled, as well as infants and children.

138. During the 21st century, we are projected to lose half of all land-based species. Animals who can relocate to cooler temperatures are moving an average of 15 feet per day toward the poles, but many are unable to move. Bees and other pollinators are moving upward in elevation, while the plants they pollinate will take decades or centuries to accomplish the same migration.

139. Each day, millions of tons of CO₂ are dissolved in seawater, reacting to form carbonic acid (H₂CO₃). This reaction lowers the pH of the ocean, which is indicative of its rising acidity. It is projected that excess CO₂ will reduce surface ocean pH by 0.3-0.5 units over the next century, which would be the largest change in pH to occur in the last 20-200 million years. The subsequent rise in acidity will trigger massive extinction of marine life, leading to inland extinction. To date, the world's oceans have become 30% more acidic than before we first started burning fossil fuels. By 2050, more than 90% of the Earth's ecologically critical coral, where many fish species are born and raised, will be completely lifeless. Other life in the ocean will be increasingly threatened.

140. Similarly, climate change is already causing, and will continue to result in, more frequent, extreme, and costly weather events, such as floods and hurricanes. The annual number of major tropical storms and hurricanes has increased over the past 100 years in North America, coinciding with increasing temperatures in the Atlantic sea surface. Across the U.S., nine of the

top ten years for extreme one-day precipitation events have occurred since 1990. Flooding along the Missouri river in early 2019 initiated preparations to shut down power plants, including the Cooper Nuclear Plant, forced 1,200 people to evacuate. A 30-knot wind storm, probably the first in Nepal, hit Bara and Parsa districts killing 28 and injuring over 500 people. Mozambique, Malawi, Madagascar, Zimbabwe, South Africa Tropical Cyclone Idai left entire cities demolished, close to 1,000 dead and more on the way from disease and starvation.

141. Changes in our country's water cycle as a result of climate change also increase the potential for, and severity of, droughts. Even in arid regions, increased precipitation is likely to cause flash flooding, and will be followed by drought. These changes are already occurring. Droughts in parts of the Midwestern, Southeastern, and Southwestern U.S. have increased in frequency and severity within the last fifty years, coinciding with rising temperatures. Most of the recent heat waves can be attributed to human-caused climate disruption.

142. In higher-altitude and -latitude regions, including in mountainous areas, more precipitation is falling as rain rather than snow. With early snow melt occurring because of climate change, the reduction in snowpack can aggravate water supply problems. The snow cover extent of North America in June 2015 was 0.75 million square miles, the second lowest ever recorded behind June 2012, with 0.68 million square miles. The average area of North America covered by snow decreased by about 3,500 square miles per year between 1972 and 2013.

143. Inland mountain glaciers are receding nationwide because of warming temperatures. In 2010, Glacier National Park in Montana had only 25 glaciers larger than 25 acres, as opposed to 150 such glaciers in 1850. In the Brooks Range of northern Alaska, all of the glaciers are in retreat, and in southeastern Alaska, 98% are in retreat. There has been an increase in permafrost temperatures and melting in Alaska. Substantial methane releases from thawing permafrost have already been observed in Alaska. Because much of the Alaskan permafrost overlays old peat bogs that sequester methane, permafrost melting will release methane that will further increase global warming to even more dangerous levels. CO₂ and methane released from thawing permafrost could contribute as much as 0.4°F to 0.6°F of warming by 2100.

144. More than 40% of insect species are declining and a third are endangered, the analysis found. The rate of extinction is eight times faster than that of mammals, birds, and reptiles. The total mass of insects is falling by a precipitous 2.5% a year, according to the best data available, suggesting that insects could vanish within a century. Insects are "essential" for the

proper functioning of all ecosystems, the researchers say, as food for other creatures, pollinators and recyclers of nutrients. Experts project there will be massive species extinction on all levels in this century. Polar bears are just one of the species listed as endangered due to the impacts of a changing climate on their habitat. If emissions continue to rise at current rates throughout the 21st century, polar bears will likely be extirpated from much of their present-day range, including Alaska's North Slope Borough. Sea ice, which polar bears depend upon to access their prey, is projected to disappear by 2100.

145. The melting of mountain glaciers is particularly serious in areas that rely on snow melt for irrigation and drinking water supply. In effect, a large snow pack or glacier acts as a supplemental reservoir or water tower, holding a great deal of water in the form of ice and snow through the winter and spring and releasing it in the summer when rainfall is lower or absent. The water systems of the western U.S., particularly in California and Oregon, heavily rely on this natural water storage. Yet as temperatures warm, not only will these areas lose this supplemental form of water storage, but severe flooding is also likely to increase as rainfall accelerates the melting of glaciers and snow packs.

146. Changes in water supply and water quality will also impact agriculture in the U.S. Increased heat and associated issues such as pests, crop diseases, and weather extremes, will all impact crop and livestock production and quality. For example, anthropogenic climate change in the U.S. has produced warmer summers, enabling the mountain pine beetle to produce two generations of beetles in a single summer season, where it had previously only been able to produce one. In Alaska, the spruce beetle is maturing in one year when it had previously taken two years. The expansion of the forest beetle population has killed millions of hectares of trees across the U.S. and resulted in millions of dollars lost from decreased tourism revenues.

147. Agriculture is extremely susceptible to climate change, threatening food security. Higher temperatures generally reduce yields of desirable crops while promoting pest and weed proliferation. Climate change is predicted to decrease crop yields, increase crop prices, decrease nationwide calorie availability, and increase malnutrition.

148. The rise in ocean acidity places coral reefs at considerable risk. Given that coral reefs are among the most biologically diverse and economically important ecosystems, the impact of their loss cannot be overstated. Coral reefs provide shelter to a quarter of all marine species. U.S. coral reefs, projections show extensive bleaching and dramatic loss of shallow coral cover

occurring by 2050, and near complete loss by 2100. In Hawaii, coral cover is projected to decline from 38% (current coral cover) to approximately 5% by 2050, with further declines thereafter. In Florida and Puerto Rico, where present-day temperatures are already close to bleaching thresholds, coral is projected to disappear even faster. Given the severity of these impacts, it is inevitable that these effects would be felt across our country, and by future generations.

149. Climate change also harms our national security, adding tension even in stable regions of the world. The DOD acknowledged the severity of climate change and its connections to national security when, in its 2014 Quadrennial Defense Review, climate change was classified as a “threat multiplier”: “Pentagon leaders have identified three main ways that climate change will affect security; accelerating instability in parts of the world wracked by drought, famine, and climate-related migrations; threatening U.S. military bases in arid Western states or on vulnerable coastlines; and increasing the need for U.S. forces to respond to major humanitarian disasters.”

150. By 2025, 40% of the world’s population will be living in countries experiencing significant water shortages, while sea-level rise could cause the displacement of tens, or even hundreds, of millions of people. As a result, the United States will experience an additional need to accept immigrant and refugee populations as droughts increase and food production declines in other countries. Increased extreme weather events (such as hurricanes) will also present an increased strain on foreign aid provided by the United States and materially increase deployment of our country’s military forces.

160. Our nation is already observing significant impacts from the relatively small amount of warming that has occurred. These impacts constitute harbingers of far more dangerous changes to come. If unabated, continued GHG emissions, especially CO₂, will initiate dynamic climate change and effects that spin out of control for Plaintiffs and future generations as the planet’s energy imbalance triggers amplifying feedbacks and the climate system and biological system pass critical tipping points. Such changes would be irreversible on any time scale relevant to Plaintiffs and threaten their survival.

161. A substantial portion of every ton of CO₂ emitted by humans persists in the atmosphere for as long as a millennium or more. Every pound of CO₂ emitted in the last hundred years will continue to trap heat in the atmosphere for hundreds of years to come. Therefore, the impacts associated with past and current CO₂ emissions will be borne by our children and future

generations. Our nation will continue to warm in response to concentrations of CO₂ from past emissions, as well as future emissions.

162. The Intergovernmental Panel on Climate Change 2018 Special Report lays out various pathways to stabilize global warming at 2.7 degrees Fahrenheit (1.5 degrees Celsius). These solutions all involve cutting fossil-fuel use in half in less than 15 years and eliminating their use almost entirely in 30 years. This means no home, business, or industry heated by gas or oil; no vehicles powered by diesel or gasoline; all coal and gas power plants shuttered; the petrochemical industry converted wholesale to green chemistry; and heavy industry like steel and aluminum production either using carbon-free energy sources or employing technology to capture CO₂ emissions and permanently store it. In addition, depending on how fast emissions are cut, between 0.4 and 2.7 million square miles (1-7 million square kilometers) of land may have to be converted to growing bioenergy crops and up to 3.86 million square miles (10 million square kilometers) of forests added by 2050—and still that won't remove carbon already in the atmosphere that threatens the lives of all American.

163. We know from geologic records that an increase in global temperatures consistent with 450 ppm atmospheric carbon will trigger irreversible feedback loops (“tipping levels”). For example, 120,000 years ago the Earth drifted slightly closer to the Sun and put us in the geological “Eemian Period.” During this time, the Earth warmed by 1.9°C (35.4°F). According to world-renowned paleoclimatic research teams, during the Eemian Period the polar ice caps at first underwent “linear” gradual melting, which produced a gradual sea rise, but then suddenly several major discontinuities arose that no longer followed linear gradual melting behavior. Instead, three major ice sheets in Western Antarctica, minor sections of East Antarctica, and Greenland abruptly and spectacularly collapsed in several stages, causing very rapid sea level rises ranging from 16 to 30 feet. The resulting high seas lasted for more than 1,000 years, ending only with the appearance of the next ice age.

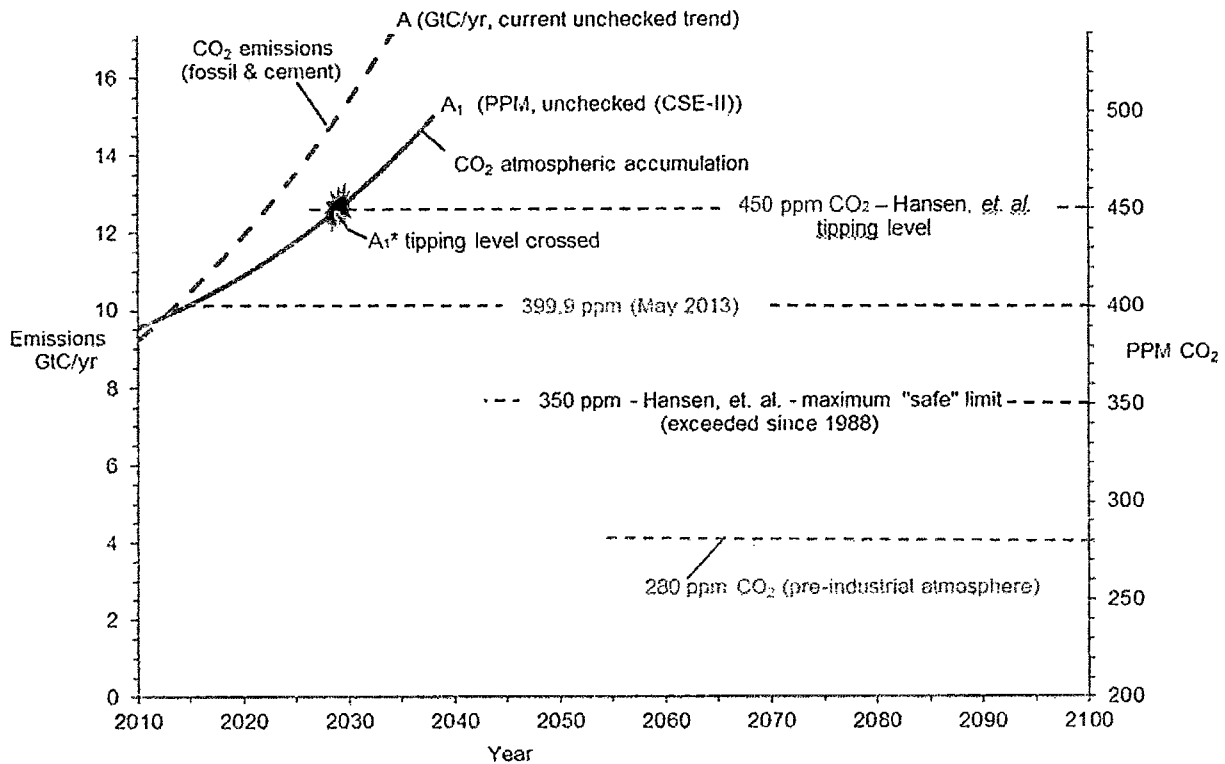
164. Currently those same three ice sheets are behaving the same way they did during the Eemian Period—this time thanks to greenhouse gas (GHG) global warming. Not only is our current rate of ice melt historically unheard of, but we are starting to see multiple patterns beginning like those detected in geologic records. A geologic cycle which occurs over hundreds of thousands of years has begun occurring in decades. Already in May 2014, NASA presented “observational evidence that the West Antarctic ice sheet has gone into irreversible retreat,” and

Greenland is losing a cubic meter of ice every day. If we let global average temperatures rise 2°C, models predict there is every reason to believe we will have the same melting and the same eventual spectacular ice collapses with the resulting abrupt 16- to 30-foot permanent sea rise that happened with 1.9°C of Eemian warming 120,000 years ago.

165. Even the most optimistic scenarios show that around 2035, Earth will begin establishing “new normals”—a cascade reaction of geometrically escalating climate-related events. Already melting ice is releasing vast stored methane deposits, shorter winters are increasing microbial activity in the soil in turn releasing escalating amounts of carbon, melting ice is beginning to disrupt ocean currents vital for distributing heat around the Earth.

166. The Defendants have already facilitated the release of too much warming pollution in the atmosphere for emissions reductions to be effective in avoiding the “tipping levels” projected for the mid-2030s. Unless relief is provided by the Court emergently, the window for fixing the problem will close. We need to deploy a method of “carbon capture and sequestration” either isolating or neutralizing the carbon, so our planet can cool off again. All the solar and wind energy, electric cars and recycling in the world will not save us unless we first remove excess carbon already in the atmosphere. (Carbon is our target, as it is the most prevalent and most enduring pollutant, and we know how to remove it.)

167. Referencing the chart below, Hansen et al. (2008, 2009) warn that crossing the 450 ppm tipping level (A1) could lead to irreversible seeding of catastrophic climate impacts. Modeling studies by Cao and Caldeira (2008) imply that a marine die-off would also accelerate when atmospheric CO₂ exceeds 450 ppm. Approaching 500 ppm (2038–2042) would further magnify and accelerate catastrophic climate and ocean impacts (Cao & Caldeira, 2008; Fry et al., 2016; Hansen et al., 2008; Hansen, 2009; and Lovelock, 2006). Note: Tipping level crossed between approximately 2030 and 2035.

CHART 1: CLIMATE DEADLINE

In Chart 1 Hansen et al. (2008, 2009) warn that crossing the 450-ppm tipping level (A1 in 2029) could lead to irreversible seeding of catastrophic climate impacts. Modeling studies by Cao and Caldeira (2008) imply that a marine die-off would also accelerate when atmospheric CO₂ exceeds 450 ppm. Approaching 500 ppm (2038–2042) would further magnify and accelerate catastrophic climate and ocean impacts (Cao and Caldeira 2008; Fry et al. 2016; Hansen et al. 2008; Hansen 2009; and Lovelock 2006).*

168. Historical records show that when “tipping levels” are reached, an exponential increase in atmospheric warming and related events will occur, with the window for reparations closing shortly thereafter.

Defendants Are Making Irresponsible Use of the National Treasury Mopping-up Climate-Related Disasters Rather than Solving Them

169. In 2018, British NGO Christian Aid released a comprehensive survey finding that extreme weather has hit every populated continent in 2018. Just 10 of the worst climate-change disasters caused 84 billion dollars of damage in addition to loss of life. The study used cost figures from governments, banks, and insurers. Hurricanes Florence and Michael wrapped up at least \$32 billion in damage spread across the United States, the Caribbean, and Central America. The California wildfires caused at least \$9 billion in losses. Earthquakes in Japan and a typhoon were responsible for more than \$9 billion. Commenting on the study, Michael Mann, professor of atmospheric science at Penn State University, said the only thing that can stop this destructive trend is a rapid fall in carbon emissions already in the atmosphere.

170. Climate-change projections estimate an increase in monetary damages associated with inland flooding across most of the contiguous United States. Approximately 190,000 of our nation's bridges are vulnerable to increased inland flooding caused by climate change, with adaptation costs estimated at \$170 billion for the period from 2010 to 2050. In the Northwest, a region including Washington and parts of Oregon and Idaho, 56% of inland bridges are identified as vulnerable in the second half of the 21st century.

171. In 2100 alone, adaptation costs associated with the 50-year, 24-hour storm moniker in 50 U.S. cities are estimated to range from \$1.1 to \$12 billion. Further, climate change is projected to result in \$5 trillion in damage to coastal properties in the contiguous United States through 2100. Due to extreme temperature increases and unsuitable working conditions, our nation's labor force may experience a drastic decline in labor hours and lost wages. In 2100, a projected 1.8 billion labor hours will be lost, along with approximately \$170 billion in lost wages.

The Federal Government's Admissions of Its Public Trustee Obligations

172. The Defendants are trustees of national public natural resources. The national public natural resources include the air (atmosphere), seas, shores of the sea, water, and wildlife.

173. In 1968, Congress declared that the federal government has “continuing responsibility” to “use all practicable means” to “fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.” 42 U.S.C. § 4331(b)(1).

174. Congress also declared that the federal government is among the “trustees for natural resources” and directed the Defendants to act as trustees, on behalf of the public beneficiaries of all natural resources under their management and control. 42 U.S.C. § 9607 (f)(1); see also 33 U.S.C. § 2706 (Oil Pollution Act).

175. Pursuant to congressional direction, the President designated the following federal agencies to act on behalf of the public as trustees for natural resources: the USDA, Commerce, DOD, DOE, and DOI. In this context, the term natural resources “means land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled (referred to as ‘managed or controlled’) by the United States (including the resources of the exclusive economic zone).” 40 C.F.R. § 300.600(a); see 42 U.S.C. § 9607 (f)(2)(A).

176. According to the National Research Council, “fisheries within federal waters are held in public trust for the people of the United States.”

177. According to the U.S. Commission on Ocean Policy, “the U.S. government holds ocean and coastal resources in the public trust—a special responsibility that necessitates balancing different uses of those resources for the continued benefit of all Americans.”

178. According to NOAA, it “has an obligation to conserve, protect, and manage living marine resources in a way that ensures their continuation as functioning components of marine ecosystems, affords economic opportunities, and enhances the quality of life for the American public.” Further, NOAA affirmed that air is a natural resource under the public trust doctrine, and that the federal government shares jurisdiction with states over such public trust resources.

179. NOAA admits that one principle of the public trust doctrine is: “The public has fundamental rights and interests in natural resources such as the sea, the shore, and the air.”

180. The DOI admits that the public trust doctrine “now encompasses all natural resources,” and that natural resources include “land, fish, wildlife, biota, air, water, ground water, drinking water supplies and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the U.S.” The DOI admits that the “Department of the Interior, Department of Commerce (delegated to NOAA), Department of Energy, Department of

Agriculture, Department of Defense, and any other Federal Land Managing Agency” are “Federal Trustees.”

181. The State Department admitted “an obligation to current and future generations to take action” on climate change.

182. The United States has taken the position before federal courts that the federal government is a trustee over important national natural resources, including wildlife, and has both rights and obligations under the public trust doctrine.

183. By way of example, in a 2010 complaint filed against British Petroleum, the United States alleged: “Natural resources under the trusteeship of the United States and other sovereigns have been injured, destroyed, or lost as a result of discharged oil and associated removal efforts. The discharged oil is harmful to natural resources exposed to the oil, including aquatic organisms, birds, wildlife, vegetation, and habitats.”

184. Since 1965, the Defendants have known they each have mandatory duties to abate CO2 pollution from fossil fuels in order to stop global climate change: “The pervasive nature of pollution, its disregard of political boundaries including state lines, the national character of the technical, economic and political problems involved, and the recognized Federal responsibilities for administering vast public lands which can be changed by pollution, for carrying out large enterprises which can produce pollutants, for preserving and improving the nation’s natural resources, all make it mandatory that the federal government assume leadership and exert its influence in pollution abatement on a national scale.”

185. The Defendants have exerted their influence, control, custodianship, and sovereignty over the polluted atmosphere and the exploitation of fossil fuels, but they have not abated the harm. Because the Defendants have put Plaintiff in danger and increased Plaintiffs’ susceptibility to harm, the Defendants are responsible for acting to protect the Plaintiff. In fact, the Defendants have exacerbated the harm to our atmosphere in violation of Plaintiffs’ constitutional rights.

**Active Removal of Carbon Directly from The Atmosphere Is Now
the Only Means of Restabilizing Our Atmospheric System and
Therefore the Only Relief the Defendants Can Provide Plaintiff**

186. An urgent and critical undertaking is required to protect the climate system and cause a cessation of the Defendants' infringement of Plaintiffs' constitutional rights. The Defendants must act rapidly and effectively to phase out CO₂ emissions in order to restore Earth's atmospheric balance. The Defendants must cease permitting and authorizing fossil-fuel projects so as not to exacerbate the climate crisis and further infringe on Plaintiffs' constitutional rights. Finally, and most importantly, the federal government must initiate a large-scale project for active atmospheric carbon removal. Global atmospheric CO₂ concentrations must be reduced to below 350 ppm prior to the mid-2030s in order to avoid triggering "tipping levels" in various ecological systems leading to runaway global heating beyond control by human beings.

187. Current actions by the Defendants will not yield atmospheric CO₂ levels of 350 ppm even by the end of this century, are not based on any scientific standard, and are not adequate to prevent and remedy the degradation, diminution, or depletion of our country's public trust resources.

Claims for Relief:
First Claim for Relief
Violation of The Due Process Clause of The Fifth Amendment

188. Plaintiff hereby re-alleges and incorporate by reference each of the allegations set forth above.

189. The Constitution recognizes and preserves the fundamental right of citizens to be free from government actions that harm life, liberty, and property. These inherent and inalienable rights reflect the basic societal contract of the Constitution to protect citizens and posterity from government infringement upon basic freedoms and basic (or natural) rights. The rights to life, liberty, and property have evolved and continue to evolve as technological advances pose new threats to these fundamental rights and as new insights reveal discord between the Constitution's central protections and the conduct of government. As set forth in the Preamble of the Constitution, these rights belong to present generations as well to our "Posterity" (or future generations).

190. Our nation's climate system, including the atmosphere and oceans, is critical to Plaintiffs' rights to life, liberty, and property. Our nation's climate system has been, and continues to be, harmed by the Defendants. The Defendants harmed our nation's climate system with full

appreciation of the results of their acts. Plaintiffs' substantive Fifth Amendment rights have been infringed because the Defendants directly caused atmospheric CO₂ to rise to levels that dangerously interfere with a stable climate system required alike by our nation and Plaintiff. The present CO₂ concentration and continuing CO₂ emissions—a function, in substantial part, of the Defendants' historic and continuing permitting, authorizing, and subsidizing of fossil-fuel extraction, production, transportation, and utilization – endangers Plaintiffs' lives, liberties, and property.

191. For the past fifty years, the Defendants have known about the danger to Plaintiffs' safety created by carbon pollution. Acting with full appreciation of the consequences of their acts, the Defendants knowingly caused, and continue to cause, dangerous interference with our atmosphere and climate system. The Defendants have knowingly endangered Plaintiffs' health and welfare by approving and promoting fossil-fuel development, including exploration, extraction, production, transportation, importation, exportation, and combustion, and by subsidizing and promoting this fossil-fuel exploitation. All of these deliberate actions by the Defendants have cumulatively resulted in dangerous levels of atmospheric CO₂, which deprive Plaintiffs of their fundamental rights to life, liberty, and property.

192. Plaintiff is suffering harm by the dangerous aggregate actions and deliberate omissions of the Defendants. The Defendants' dangerous interference with a stable climate system is having such irreversible and catastrophic consequences as to shock the conscience. The conduct, if not fundamentally altered, will have even worse consequences for future generations.

193. The affirmative aggregate acts of the Defendants have been and are infringing on Plaintiffs' right to life by causing dangerous CO₂ concentrations in our nation's atmosphere and dangerous interference with our country's stable climate system.

194. The affirmative aggregate acts of the Defendants have been and are infringing on Plaintiffs' liberties by placing Plaintiffs in a position of danger with a destabilized climate system and dangerous levels of CO₂ in our country's atmosphere. The Defendants' aggregate acts of increasing CO₂ concentrations in the atmosphere have been and are harming Plaintiffs' dignity, including their capacity to provide for their basic human needs, safely raise families, practice their religious and spiritual beliefs, maintain their bodily integrity, and lead lives with access to clean air, water, shelter, and food.

195. After knowingly creating this dangerous situation for Plaintiff, the Defendants continue knowingly to enhance that danger by allowing fossil-fuel production, consumption, and combustion at dangerous levels, thereby violating Plaintiffs' substantive Fifth Amendment due process rights.

196. After placing Plaintiff in a position of climate danger, the Defendants have continued to act with deliberate indifference to the known danger they helped create and enhance. A destabilized climate system poses unusually serious risks of harm to Plaintiffs' lives and their bodily integrity and dignity. As described at length, *supra*, these risks are so substantial as to shock the conscience. The Defendants have had longstanding, actual knowledge of the serious risks of harm and have failed to take necessary steps to address and ameliorate the known, serious risk to which they have exposed Plaintiffs. With deliberate indifference, the Defendants have not implemented their own plans for climate stabilization or any other comprehensive policy measures to effectively reduce CO₂ emissions to levels that would adequately protect Plaintiffs from the dangerous situation of climate destabilization.

197. By exercising sovereignty over the air space and the federal public domain, by assuming authority and regulatory responsibility over fossil fuels, and by allowing and permitting fossil-fuel production, consumption, and its associated CO₂ pollution, the Defendants have also assumed custodial responsibilities over the climate system within its jurisdiction and influence. In assuming control of our nation's atmosphere, air space, the federal domain, fossil fuels, and climate system, the Defendants have imposed severe limitations on Plaintiffs' freedom to act on their own behalf to secure a stable climate system and, therefore, have a special relationship with Plaintiff, and a concomitant duty of care to ensure their reasonable safety. By their affirmative acts resulting in dangerous interference with a stable climate system, the Defendants have abrogated their duty of care to protect Plaintiffs' fundamental rights to life, liberty, and property. In their custodial role, the Defendants have failed to protect Plaintiffs' needs with respect to the climate system in violation of the Fifth Amendment.

198. The United States, through DOE, is depriving Plaintiff of their fundamental rights to be free from the dangerous government acts, which infringe on their fundamental rights to life, liberty, and property, by requiring and giving approval for the exportation and importation of natural gas resources in the U.S. through section 201 of the Energy Policy Act of 1992. The extraction, interstate transport, liquefaction, exportation, and ultimate combustion of U.S. natural

gas, facilitated by section 201 of the Energy Policy Act, increase carbon pollution and exacerbate already-dangerous climate instability. The Energy Policy Act and DOE's actions taken pursuant to the Energy Policy Act deprive Plaintiffs of their fundamental rights to life, liberty, and property.

199. The affirmative aggregate acts of the Defendants in the areas of fossil-fuel extraction, production, transportation, importation and exportation, and consumption, as described in this Complaint, are causing dangerous concentrations of CO₂ in the atmosphere and a dangerous climate system, and irreversible harm to the natural systems critical to Plaintiffs' rights to life, liberty, and property. The affirmative aggregate acts of the Defendants cannot and do not operate to secure a more compelling state interest than Plaintiffs' fundamental rights to life, liberty, and property.

Second Claim for Relief: Violation of Equal Protection Principles Embedded in The Fifth Amendment

200. Plaintiff hereby re-alleges and incorporates by reference each of the allegations set forth above.

201. The Defendants have violated the equal protection principles of the Fourteenth Amendment, embedded in the Due Process Clause of the Fifth Amendment.

202. The affirmative aggregate acts of the Defendants in the areas of fossil-fuel production and consumption irreversibly discriminate against Plaintiffs' exercise of their fundamental rights to life, liberty, and property, and abridge central precepts of equality. The affirmative aggregate acts of the Defendants in the areas of fossil-fuel production and consumption have caused and are causing irreversible climate change. As a result, the harm caused by the Defendants has denied Plaintiffs the same protection of fundamental rights afforded to prior and present generations of adult citizens. The imposition of this disability on Plaintiffs serves only to disrespect and subordinate them. The principles of the Equal Protection Clause, which are embedded in the Due Process Clause, prohibit the federal government's unjustified infringement of Plaintiffs' right to be free from the Defendants' aggregate acts that destabilize our nation's climate system whose protection is fundamental to Plaintiffs' fundamental rights to life, liberty, and property. Because fundamental rights are at stake and are being infringed by the affirmative

aggregate acts of the Defendants, this Court must apply strict scrutiny for a denial of equal protection of the law.

203. The Fifth Amendment's Due Process Clause and the Fifth Amendment's equal protection principles are profoundly connected but set forth distinct principles, which are implicated here. The reason why a stable climate system is inherent in our fundamental rights to life, liberty, and property becomes clearer and more compelling because of the grave and continuing harm to children that results from discriminatory laws and actions that prevent a stable climate system. The application of these dual principles requires strict scrutiny of the Defendants' discriminatory laws and actions.

204. Plaintiff has no avenues of redress other than this Court, as Plaintiff cannot challenge or alter the acts of the Defendants concerning fossil fuels.

205. The affirmative aggregate acts of the Defendants reflect a de facto policy choice to favor influential and entrenched short-term fossil-fuel energy interests to the long-term detriment of Plaintiff—precisely the sort of dysfunctional majoritarian outcome that our constitutional democratic system is designed to check. Such a check is especially appropriate here because our country will soon pass the point where Plaintiff will no longer be able to secure equal protection of the laws and protection against an uninhabitable climate system.

206. The Energy Policy Act's mandatory authorization for export and import of natural gas discriminates against Plaintiffs by exacerbating already-dangerous levels of atmospheric CO₂ and a dangerous climate system, the consequences of which will be irreversible and catastrophic in Plaintiffs' lifetime. The Energy Policy Act, section 201, creates a disproportionate impact on suspect classes. Historical evidence demonstrates the Defendants' discriminatory and intentional acts against children and future generations in order to foster the short-term economic and energy interests of other classes, including corporations. The Energy Policy Act unconstitutionally deprives minor children and future generations of equal protection of the law because the full impacts of excess atmospheric CO₂ and the dangerous climate system, resulting from the U.S. government-authorized natural gas exports and imports, will be disproportionately imposed upon minor children, including Class Plaintiffs, and for millennia by future generations.

207. Section 201 of the Energy Policy Act violates Plaintiffs' rights of equal protection under the law.

208. The affirmative aggregate acts of the Defendants unconstitutionally favor the present, temporary economic benefits of certain citizens, especially corporations, over Plaintiffs' rights to life, liberty, and property.

Third Claim for Relief: The Unenumerated Rights Preserved for The People by The Ninth Amendment

209. Plaintiff hereby re-alleges and incorporates by reference each of the allegations set forth above.

210. Protecting the vital natural systems of our nation for present and future generations is fundamental to our scheme of ordered liberty and is deeply rooted in this nation's history and tradition. Without a stable climate system, both liberty and justice are in peril. Our nation's obligation to protect vital natural systems for posterity has been recognized throughout American history, particularly through our country's conservation legislation.

211. Our nation's founders intended that the federal government would have both the authority and the responsibility to be a steward of our country's essential natural resources. This stewardship is clear from the delegation of powers to manage lands and the conveyed authority to address major challenges facing our nation. Among the implicit liberties protected from government intrusion by the Ninth Amendment is the right to be sustained by our country's vital natural systems, including our climate system.

212. Fundamental to our scheme of ordered liberty, therefore, is the implied right to a stable climate system and an atmosphere and oceans that are free from dangerous levels of anthropogenic CO₂. Plaintiffs hold these inherent, inalienable, natural, and fundamental rights.

213. The affirmative aggregate acts of the Defendants have unconstitutionally caused, and continue to materially contribute to, dangerous levels of atmospheric and oceanic CO₂ and a destabilized climate system.

214. The affirmative aggregate acts of the Defendants have infringed, and continue to infringe, on Plaintiffs' fundamental constitutional rights.

Fourth Claim for Relief: Violation of The Public Trust Doctrine

215. Plaintiff hereby re-alleges and incorporates by reference each of the allegations set forth above.

216. Plaintiff is a beneficiary of rights under the public trust doctrine, rights that are secured by the Ninth Amendment and embodied in the reserved powers doctrines of the Tenth Amendment and the Vesting, Nobility, and Posterity Clauses of the Constitution. These rights protect the rights of present and future generations to those essential natural resources that are of public concern to the citizens of our nation. These vital natural resources include at least the air (atmosphere), water, seas, the shores of the sea, and wildlife. The overarching public trust resource is our country's life-sustaining climate system, which encompasses our atmosphere, waters, oceans, and biosphere. The Defendants must take affirmative steps to protect those trust resources.

217. As sovereign trustees, the Defendants have a duty to refrain from "substantial impairment" of these essential natural resources. The affirmative aggregate acts of the Defendants in the areas of fossil-fuel production and consumption have unconstitutionally caused, and continue to cause, substantial impairment to the essential public trust resources. the Defendants have failed in their duty of care to safeguard the interests of Plaintiffs as the present and future beneficiaries of the public trust. Such abdication of duty abrogates the ability of succeeding members of the Executive Branch and Congress to provide for the survival and welfare of our citizens and to promote the endurance of our nation.

218. As sovereign trustees, the affirmative aggregate acts of the Defendants are unconstitutional and in contravention of their duty to hold the atmosphere and other public trust resources in trust. Instead, the Defendants have alienated substantial portions of the atmosphere in favor of the interests of private parties so that these private parties can treat our nation's atmosphere as a dump for their carbon emissions. The Defendants have failed in their duty of care as trustees to manage the atmosphere in the best interests of the present and future beneficiaries of the trust property, including, but not limited to, Plaintiffs. Such abdication of duty abrogates the sovereign powers of succeeding members of the Executive Branch and Congress to provide for the survival and welfare of our Nation's citizens and to promote the endurance of our Nation.

Fifth Claim for Relief: Carbon Reclamation and Reduction

219. Plaintiff hereby re-alleges and incorporates by reference each of the allegations set forth above. Declare that the Defendants have violated and are violating Plaintiffs' fundamental constitutional rights to life, liberty, and property by substantially causing or contributing to a dangerous concentration of CO₂ in the atmosphere, and that, in so doing, the Defendants dangerously interfere with a stable climate system required by our nation and Plaintiffs alike;

220. Enjoin the Defendants from further violations of the Constitution underlying each claim for relief;

221. Declare the Energy Policy Act, Section 201, to be unconstitutional on its face;

222. Declare the Defendants' public trust violations and enjoin the Defendants from violating the public trust doctrine underlying each claim for relief;

223. Order the Defendants to prepare a consumption-based inventory of U.S. CO₂ emissions;

224. Order the Defendants to prepare and implement an enforceable national remedial plan to phase out fossil-fuel emissions like that described in the congressional resolution "Green New Deal".

225. Order the Defendants to fund, research and operationalize safe and effective methodology for active atmospheric carbon removal with a timetable resulting in atmospheric carbon levels reduced to 350 ppm or below by the year 2030. As mentioned, due to the already advanced state of atmospheric damage, simple reduction of further GHG emission will not be of sufficient relief to the Plaintiff. Active carbon removal and, or solar reflection is the primary and most crucial relief sought by the Plaintiff since our Constitutional claim is based on inalienable rights to life. Viewed as an integrated whole, scientific evidence from the various disciplines bearing upon climate change has now established that a synergistic Of greatest importance the Defendants must be ordered to, prepare and implement by the safest, most economical and most effective means now available, a sufficiently large-scale project for direct atmospheric carbon removal. The Defendants must have this campaign operational rapidly enough to prevent atmospheric carbon levels from reaching 420 ppm and/or triggering the "tipping levels" discussed in detail above. There are several methods, in various stages of testing, for achieving atmospheric

carbon removal. Most are limited in their effectiveness, are cost-prohibitive, or hold the potential to worsen the already dire atmospheric situation. Probably the most effective approach includes a combination of: (1) Reinstitution and upgrading of carbon emissions reductions regulation; (2) Implementation of stratospheric aerosolized radiation reflection; (3) Active atmospheric carbon removal such as through the Ocean Assisted Carbon Capture & Reflection (OACC&R) program. Because OACC&R is less understood we will describe this procedure here in some detail so it will be evident what relief is specifically being sought by the Defendant.

226. The current builds upon the evidence presented in *Juliana v. USA* adding the more recent scientific knowledge that at or about 450 ppm atmospheric carbon, climate change will push our ecosystem into a rapid and exponentially-escalating shift to a "new ecological normal" which in a matter of decades will render the Earth's ecosystems incompatible with the continuation of human civilization. Replacing or augmenting environmental protections, as requested by *Juliana v. USA*, - even if such measure were to include a full and immediate cessation of all anthropogenic greenhouse gas emissions - will in no way be sufficient to avoid the fast approaching mid-2030's climate deadline with its grave and irreparably catastrophic effects on human life. Therefore, the only effective relief this Plaintiff can request is the immediate development and deployment of a safe and effective system for direct atmospheric carbon removal, targeting a safe level of 350 ppm or less by 2030. (Currently atmosphere carbon levels are at roughly 420 ppm and increasing more rapidly than predicted.)

227. The effort required for removing gigatons of carbon from the atmosphere is significant, but the alternative is unthinkable. While those born prior to the year 2000 will experience mild to moderate hardship due to catastrophic weather, wildfire, seismic, migratory and other effects subsequent generations are predicted to suffer an extremely adverse existence. In a sense our grandchildren's future will exist only if we in our generation reclaim it for them.

228. Fortunately, systems do exist for the purpose of atmospheric carbon removal. With almost no remaining time for further research and development, the leading methodology now available appears to be Ocean Assisted Carbon Capture & Reflection (OACC&R). If initiated in the next few years OACC&R is a project that is within the technological and fiscal capabilities of the Defendants and their industrial allies. After that time no relief will be possible.

229. Damages: The plaintiff requests no damages other than rapid implementation of an atmosphere carbon removal program by the Defendants

230. The Plaintiff respectfully requests a trial by jury again making note of the time urgency imbedded in this action.

231. Retain jurisdiction over this action to monitor and enforce the Defendants' compliance with

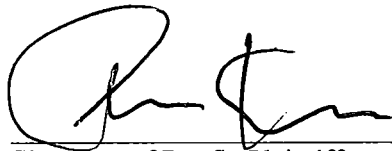
the national remedial plan and all associated orders of this Court; and

231. Grant such other and further relief as the Court deems just and proper.

Respectfully submitted this 29th day of May, 2019

Date:

5.29.2019

A handwritten signature in black ink, appearing to read 'C. Komor', written over a horizontal line.

Signature of Pro Se Plaintiff

Christian Robert Komor

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