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13
14 **UNITED STATES DISTRICT COURT**
15 **NORTHERN DISTRICT OF CALIFORNIA**
16

17 ALEC L., by and through his Guardian Ad
18 Litem VICTORIA LOORZ;
19 MADELEINE W., by and through her Guardian
20 Ad Litem JANET WALLACE;
21 GARRETT S., by and through his Guardian Ad
22 Litem VALERIE SERRELS;
23 GRANT S., by and through his Guardian Ad
24 Litem VALERIE SERRELS;
25 ZOE J., by and through her Guardian Ad Litem
26 NINA GROVE;
27 KIDS vs GLOBAL WARMING, a nonprofit;
28 and,
WILDEARTH GAURDIANS, a nonprofit

Plaintiffs,

vs.

23 LISA P. JACKSON, in her official capacity as
24 Administrator of the UNITED STATES
25 ENVIRONMENTAL PROTECTION
26 AGENCY, a federal agency;
27 KENNETH L. SALAZAR, in his official
28 capacity as Secretary of the UNITED STATES
DEPARTMENT OF INTERIOR, a federal
agency;
THOMAS J. VILSACK, in his official capacity
as Secretary of the UNITED STATES
DEPARTMENT OF AGRICULTURE, a
federal agency;

Case No. _____

**COMPLAINT FOR DECLARATORY
AND INJUNCTIVE RELIEF**

COMPLAINT

1 GARY F. LOCKE, in his official capacity; as
Secretary of the UNITED STATES
2 DEPARTMENT OF COMMERCE, a federal
agency;
3 STEVEN CHU, in his official capacity as
Secretary of the UNITED STATES
4 DEPARTMENT OF ENERGY, a federal
agency;
5 ROBERT M. GATES, in his official capacity,
as Secretary of the UNITED STATES
6 DEPARTMENT OF DEFENSE, a federal
agency;

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8 Defendants.
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1 “[T]he state has an interest independent of and behind the titles
2 of its citizens, in all the earth and air within its domain.”
3 *State of Georgia v. Tennessee Copper Co.*, 206 U.S. 230, 237 (1907)

4 “The state can no more abdicate its trust over property in which
5 the whole people are interested... than it can abdicate its police
6 power in the administration of government.”
7 *Ill. Cent. R.R. Co. v. Illinois*, 146 U.S. 387, 453

8 **I. INTRODUCTION**

9 1. Earth’s climate is warming due to human-induced global energy imbalance.
10 Increasing temperatures are affecting our Nation’s water resources, causing more frequent heat
11 waves, increasing illness from insect-borne diseases, shortening our winter season, reducing
12 summer water flows, and increasing our irrigation needs. However, it is our children and our
13 children’s children who will face the full consequences of this climate crisis.

14 2. There is longstanding, fundamental authority that the United States government
15 has a fiduciary duty to protect our natural resources and our human rights from threats, such as
16 effects of human-induced global energy imbalance. Our federal government must exercise the
17 highest duty of care when dealing with natural resources, such as atmosphere, that are necessarily
18 held in common for all. Applying basic trust principles, the United States government has an
19 affirmative fiduciary obligation to control atmospheric contamination that causes catastrophic and
20 irreparable damage to our lands, our businesses, our national security, and our health.

21 3. The public welfare of our citizens is directly affected by the failure of our federal
22 government to confront this human-induced global energy imbalance. This Court should
23 determine the Public Trust Doctrine applies to the current climate crisis and issue appropriate
24 equitable relief. This action does not request this Court issue an order telling Congress or any
25 federal agency *how* to protect our natural resources, but rather issue an order requiring our federal
26 government to do its job.

27 4. Plaintiffs include youth, representing the youngest living generation of
28 beneficiaries of the Public Trust. Plaintiffs have a profound interest in ensuring our climate
 remains stable enough to ensure their rights to a livable future. A livable future includes the
 opportunity to drink clean water, to grow food, to be free from imminent property damage caused

1 by extreme weather events, and to enjoy the abundant and rich biodiversity on this small planet.
2 These youth Plaintiffs are not scientists or public policymakers, or even voters. Plaintiffs bring
3 this action not to require this Court to force our federal government to adopt a particular treaty,
4 economic theory, or political platform. Plaintiffs ask this Court to declare there is a human-
5 induced global energy imbalance and require our federal government, as trustee, to present a plan
6 to steward probable negative effects of the climate crisis in the future.

7 5. The Public Trust Doctrine provides that our federal officials have a fiduciary duty
8 to protect the atmosphere from the effects of human-induced global energy imbalance and to hold
9 our country's vital natural resources in trust for present and future generations of citizens. Our
10 federal government may not manage the trust resource in a way that substantially impairs the
11 public interest in a healthy atmosphere. Our atmosphere contains a blanket of gases that have
12 naturally allowed Earth's climate to remain in balance so our planet is not too hot or too cold,
13 allowing human civilization and Earth's biodiversity to develop. Yet, when human activity
14 disrupts that atmospheric equilibrium, jeopardizing the safe climate-zone, human life is placed in
15 grave danger.

16 6. Today we are confronted with an atmospheric emergency. Our atmosphere's
17 necessary balance is close to a "tipping point" and increasingly getting worse, accelerated over
18 the last thirty years to a climate warmer than has likely been experienced on Earth for 800,000
19 years. This acceleration has been caused primarily by human activity and, if continued, will
20 result in a changed world that threatens human existence as we know it. Americans and the world
21 as a whole face impending climate catastrophe. If our federal government, as the trustee of the
22 atmosphere, does not take immediate extraordinary action to protect, preserve, and restore the
23 atmosphere back into balance, our children and our children's children will continue to suffer
24 greater injury and damaging consequences.

25 7. Science, not politics, should define the fiduciary obligation that our federal
26 authorities must fulfill. Nature has its own laws and our atmosphere has its own energy balance.
27 That balance has been seriously disrupted by massive amounts of carbon dioxide and heat-
28 trapping greenhouse gases or "GHGs," which trap the sun's heat and prevent it from dissipating

1 into space. Determining how much carbon reduction is needed to timely return our atmosphere to
2 equilibrium is a matter of science, not politics.

3 8. Human lives are already being lost because our federal government has failed to
4 address destruction of our natural resources. Earth has already heated over pre-industrial
5 temperatures. Rapid reduction of greenhouse gas emissions is required to preserve our planet.
6 Our atmosphere must be returned to equilibrium of less than 350 parts per million (“ppm”) carbon
7 dioxide to prevent heating beyond 1° C (1.8° F) (which scientific analysis deems catastrophic).
8 Our atmosphere is now at approximately 390 ppm.

9 9. If our society wants to protect and keep the world safe for our children and our
10 children’s children, our federal government must immediately be ordered to accept its fiduciary
11 responsibility mandated by the Public Trust Doctrine. Plaintiffs, and each of them, are already
12 experiencing serious environmental, economic, physical, emotional, and aesthetic injuries as a
13 result of our federal government’s actions and inactions. If our federal government continues to
14 contribute to this atmospheric crisis, those injuries will intensify and expand. A failure to
15 immediately take bold action to protect and preserve Earth’s safe climate-zone will cause
16 irreparable harm to Plaintiffs and others. Immediate federal government action is imperative.
17 Once we pass certain tipping points of energy imbalance and planetary heating, we will not be
18 able to prevent the ensuing harm. A failure to act soon will ensure the collapse of Earth’s natural
19 systems resulting in a planet that is largely unfit for human life.

20 10. Defendants, and each of them, by their actions of causing, approving and allowing
21 too many carbon emissions into Earth’s atmosphere, cumulatively resulting in global heating,
22 ocean acidification, melting icecaps and ice sheets, biodiversity loss, and extreme weather events
23 have breached and are continuing to breach their duty as trustees. These and other catastrophes
24 are already underway throughout our country and the world, and are getting worse. Last year’s
25 extraordinary floods in Pakistan displaced one million people, with more than 150,000 people still
26 unable to return home six months later.

27 11. Human-induced global energy imbalance is a humanitarian crisis, as well as a
28 military and national security concern. As the current Chairman of the Joint Chiefs of Staff,

1 Admiral Mike Mullen, stated: “Whatever the root cause, climate change’s potential impacts are
2 sobering and far-reaching.” Admiral Mullen went on to warn: “Scarcity of water, food and space
3 could create not only a humanitarian crisis, but create conditions that could lead to failed states,
4 instability and, potentially, radicalization.” Our federal government must not ignore our military
5 leaders’ concerns.

6 12. For over the past 200 years, the burning of fossil fuels, such as coal and oil,
7 together with massive deforestation have caused a substantial increase in the atmospheric
8 concentrations of heat-trapping greenhouse gases. These gases prevent heat from escaping to
9 space, like the glass panels of a greenhouse. The extent of these gases in the atmosphere have
10 changed and fluctuated over geologic time but have reached an equilibrium -- Earth’s safe
11 climate-zone -- which is necessary to life as we know it. However, as the concentrations of these
12 heat-trapping greenhouse gases continue to increase in the atmosphere, Earth's temperature is
13 climbing above Earth’s safe climate-zone.

14 13. According to data from the National Oceanic and Atmospheric Administration
15 (“NOAA”) and the National Aeronautics and Space Administration (“NASA”), Earth's average
16 surface temperature has increased by about .67° to .8°C (1.2 to 1.4°F) in the last 100 years. In
17 fact, the eight warmest years on record (since 1850) have all occurred since 1998. Coupled with
18 the increase in the Earth’s temperature, other aspects of the climate are also changing, such as
19 rainfall patterns, snow and ice cover, and sea levels.

20 14. Climate changes are currently occurring faster than even the most pessimistic
21 scenarios presented in the 2007 Intergovernmental Panel on Climate Change. A variety of studies
22 conclude a further increase of average annual temperatures of 2° C (3.6° F) above current levels
23 would cause severe, widespread, and irreversible impacts. The future is likely to bring increases
24 of 3 to 11 degrees F above current levels, if our federal government does not accept its
25 responsibility and take immediate action.

26 15. To return Earth’s energy balance and protect its natural systems, Defendants, and
27 each of them, must reduce the United States’ fair share of annual carbon dioxide emissions in
28 order to draw down atmospheric carbon dioxide by at least 35-40 ppm by the end of this century.

1 To limit average surface heating to no more than 1° C (1.8° F) above pre-industrial temperatures,
2 concentrations of atmospheric carbon dioxide should be no more than 350 ppm. Today, carbon
3 dioxide concentrations have already reached approximately 390 ppm and are projected to exceed
4 400 ppm within a matter of years. To prevent exceeding 400 ppm it is essential that we draw
5 down the carbon dioxide from the atmosphere by immediately reducing GHG emissions and
6 deforestation, and also undertaking significant reforestation.

7 16. This Complaint seeks to investigate the effectiveness of federal authorities in
8 planning and managing our nation's response to human-induced global energy imbalance. If
9 Defendants, and each of them, do not immediately account for and react to this crisis and act
10 swiftly to reduce carbon dioxide emissions into the atmosphere, our current environment will no
11 longer exist. If Defendants, and each of them, do not act immediately to reduce carbon emissions
12 into the atmosphere, Plaintiffs and future generations of children will face a planet that may be
13 largely uninhabitable. We have an intergenerational obligation to protect and preserve our planet
14 for them. The United States must lead the way to GHG emissions reductions. It not only is the
15 single largest contributor of any sovereign nation to this harming of the atmosphere, but it also
16 has the capacity and the technology to reduce emissions if required to do so. However, if the
17 United States government does not act now to reduce emissions and protect the atmosphere, the
18 catastrophic collapse of Earth's natural systems is inevitable.

19 17. To return Earth's energy balance, to protect its natural systems, and to fulfill its
20 responsibilities, Defendants, and each of them, must do their part to account for and reduce
21 annual carbon dioxide emissions and draw down atmospheric carbon dioxide to less than 350
22 ppm from its current level of 390 ppm to limit average surface heating to 1° C (1.8° F) above pre-
23 industrial temperatures.

24 18. Secretary Kenneth L. Salazar, Secretary Gary F. Locke, Secretary Steven Chu,
25 Secretary Thomas J. Vilsack, Secretary Robert M. Gates, and Administrator Lisa P. Jackson,
26 through their respective offices, departments, and agencies, the Department of Interior, the
27 Department of Commerce, the Department of Energy, the Department of Agriculture, the
28 Department of Defense, and the Environmental Protection Agency, have the primary duties to

1 ensure that our atmosphere is protected for present and future citizens. These Defendants, and
2 their predecessors, have violated and continue to violate their fiduciary duties to protect the
3 atmosphere for these Plaintiffs, as well as for all children across our country.

4 19. Defendants, and each of them, have failed to implement our nation's laws for the
5 benefit of the people of the United States, including these Plaintiffs, as well as for all children
6 across the country, and to affirmatively protect our vital public resources. It is our nation's
7 judiciary that can and must enforce the Public Trust's fiduciary responsibility and mandate the
8 preservation of our natural resources and protection of our children throughout our country by
9 requiring prompt mitigating or preventative action. Significant delays in addressing the human-
10 induced global energy imbalance will compound the crisis and make future remedies more
11 difficult, painful, and costly. Ordering prudent actions now will improve the situation, avoiding
12 more sweeping action in the future.

13 20. It has been more than 18 years since the United States ratified the United Nations
14 Framework Convention on Climate Change ("UNFCCC") on October 15, 1992. Children born
15 on that day have now entered adulthood. Yet the United States government has failed to address
16 this problem in any meaningful way to reverse the human-induced global energy imbalance. This
17 emergency situation demands immediate judicial attention.

18 **II. JURISDICTION AND VENUE**

19 21. This action is brought pursuant to the federal Public Trust Doctrine and the United
20 States Constitution. This Court has jurisdiction pursuant to 28 U.S.C. § 1331, as this action arises
21 under the laws of the United States.

22 22. Venue lies in this judicial district by virtue of 28 U.S.C. § 1391(e). Defendants
23 have offices in this district, one Plaintiff resides in this district, and the events or omissions giving
24 rise to the claims arise in this district.

25 23. Defendants, and each of them, reside in this judicial district. This civil action is
26 brought against officers of the United States acting in their official capacities and a substantial
27 part of the events or omissions giving rise to the claims in this case occurred in the Northern
28 District of California. One of the claims in this Complaint concerns EPA's failure to perform

1 fiduciary duties with regard to California. EPA Region 9, whose jurisdiction includes California,
2 is headquartered in San Francisco. Thus several of the events and omissions at issue in this action
3 occurred at EPA's Region 9 headquarters in San Francisco. In addition, Plaintiff Madeleine W.
4 and Zoe J. reside in San Francisco, California and Plaintiffs' counsel is located in Burlingame,
5 California. Therefore, venue is proper in this Court pursuant to 28 U.S.C. Section 1391(e).

6 **III. INTRADISTRICT ASSIGNMENT**

7 24. A substantial part of the events and omission giving rise to the claims in this case
8 occurred in the County of San Francisco. Accordingly, assignment to the San Francisco Division
9 or the Oakland Division is proper pursuant to Civil L.R. 3-2(c) and (d).

10 **IV. PARTIES**

11 **A. ALEC L.**

12 25. Plaintiff ALEC L. is a 16 year old citizen of the United States who resides in
13 Ventura, California. Alec is a beneficiary of the Public Trust in our atmosphere and is owed a
14 fiduciary duty by the United States government. In 2006, when Alec was 12, he started a non-
15 profit organization, Plaintiff Kids vs Global Warming, to educate youth of the world about the
16 imminence of the human made climate change crisis. Alec hoped to organize his generation and
17 their parents to take urgent action to protect Earth from the dire consequences that are already
18 occurring and will only get worse if drastic action is not taken soon. Since then, he has been
19 working to teach his peers about these problems and convince our federal government to protect
20 the atmosphere for present and future generations. In 2050, when the worst effects of human
21 made climate change are expected to be seen, Alec will be 56 years old. Alec, a minor, brings
22 this action on his own behalf and is also represented by his mother, Victoria Loorz, who also
23 resides in Ventura, California.

24 26. Alec has spent his entire teenaged life focused on researching, writing, and
25 speaking to his peers about the reality that the burning of fossil fuels has led to an imbalance of
26 Earth's natural systems. Alec is keenly aware that the future effects are only part of the story
27 because human made climate change is already affecting millions of people around the world, and
28 the youngest generations will be hurt the most.

1 27. Human made climate change is adversely affecting Alec now. For example, he
2 has lived in Breckenridge, Colorado, where he enjoyed hiking and walking in forests that are now
3 being destroyed by pine beetles, as a result of human made climate change. These forests are on
4 public lands. Alec has experienced immense aesthetic enjoyment from these forests in his past
5 and would like to continue to enjoy the forests in the future, but is impaired in his ability to do so
6 because of the devastation that is caused by human made climate change. Winter temperatures in
7 recent years are not cold enough to kill off the beetles and, as a result, Alec has seen 90% of the
8 trees destroyed over the past five years.

9 28. Alec is experiencing other devastating effects of the climate crisis. For example,
10 he traveled to Iceland in the summer of 2010 to hike on glacial tongues running off of the third
11 largest ice sheet in the world. He wept when he saw that new trails need to be marked almost
12 every day because the glacier is receding up to 3,000 feet per year, as a result of the aberrational
13 warming of our planet. Unless immediate action is taken to ameliorate the effects of human made
14 climate change, he will never see glaciers of that magnitude again.

15 29. In his home town of Ventura, California, Alec and 50 other middle school students
16 erected poles that show where the future sea level rise will be if nothing is done to change our
17 current rate of emissions. The poles show how, within Alec's lifetime, the sea level will rise
18 enough to lose the waste water treatment center in his community, the power generating station
19 for the entire county, the freeway, all of the beaches, and hundreds of homes – all of which will
20 negatively impact Alec personally.

21 30. Alec is passionately driven to “stop global warming” within his lifetime because
22 he has seen how the burning of fossil fuels and increased emission of greenhouse gases melt
23 snowpacks and glaciers, cause droughts and reduce water supplies, and compromise food
24 production, putting his future and the lives of hundreds of millions of people in danger.

25 **B. MADELEINE W.**

26 31. Plaintiff Madeleine W. is 15 years old and lives in San Francisco, California.
27 Madeleine is a beneficiary of the Public Trust in our atmosphere and is owed a fiduciary duty by
28 the United States government. In 6th grade, Madeleine was concerned about how much water and

1 energy her school was using, so she co-founded her school's Environmental Action Committee
2 with her science teacher.

3 32. When Madeleine was nine, she started a nonprofit called "Superheroes Needed"
4 after she saw a photograph of an African mother holding her child who had died from starvation
5 caused by drought in their homeland. What she first mistook for a baby was a child her same
6 age—9 years old. The size of the child was due to malnourishment. Superheroes Needed sold
7 handmade necklaces for building wells in Africa because water issues there are so urgent.
8 Madeleine knows this story will become exponentially common without addressing human made
9 climate change: poor countries will only become poorer, those who have little to eat will have
10 even less as drought and food shortages worsen, not just in Africa but globally.

11 33. Through the fundraising efforts of Superheroes Needed, Madeleine and others
12 built wells in Africa, addressing water shortages exacerbated by human made climate change.

13 34. Madeleine's firsthand experiences solidified her passion, desire, and need to
14 advocate for those people and natural resources without a voice. Madeleine traveled with her
15 mother, a social justice attorney, and her godfather, Robert Kennedy, Jr., to Patagonia, Chile, to
16 fight against the damming of the Futaleufu River.

17 35. Madeleine, a minor, brings this action on her own behalf and is also represented by
18 her mother, Janet Wallace, who also resides in San Francisco, California.

19 **C. GARRETT AND GRANT S.**

20 36. Plaintiffs Garrett and Grant S. are both 15 years old and live Timberville, Virginia.
21 Garrett and Grant are beneficiaries of the Public Trust in our atmosphere and are owed a fiduciary
22 duty by the United States government. Garrett and Grant have experienced consequences of
23 global warming in the various geographic locations they have lived. They resided in Pine
24 Mountain Club, California for 7 years, a beautiful community at 6,500 ft. in the Los Padres
25 National Forest. While they lived in Pine Mountain Club, they witnessed the destruction of
26 hundreds of pine trees from pine beetles, extreme weather patterns that left them without
27 electricity or water for several days, and drought and fire hazard in the forests.
28

1 37. Upon moving to Timberville, Virginia almost six years ago, Garrett and Grant
2 were fortunate enough to live in a house located on the North fork of the Shenandoah River. Their
3 excitement of being able to play, fish, and swim in the river was quickly thwarted. As new
4 residents, they soon learned the river had become polluted as a result of lax standards of factory
5 discharge into the river. The Shenandoah River had become unsafe for swimming. Also, "fish
6 kill" became a common vocabulary word for the die off of trout, bass, and sunfish (sometimes in
7 large numbers). Garrett and Grant would often fish in the Shenandoah River to examine the fish
8 for potential lesions, and found several. The reason for these lesions and fish kill is related to the
9 increased temperature of the river waters over the past decade.

10 38. Garrett and Grant greatly enjoy hiking, camping swimming in the rivers and
11 creeks, and fishing. They care deeply about the environment, and personally take responsibility
12 for keeping it clean, picking up trash, and expect others also to take responsibility for the
13 environment. In addition, Garrett and Grant have been involved with using the arts, drama, and
14 music to communicate the need for social change in public places, at rallies, in malls, parks, and
15 homeless shelters.

16 39. Garrett and Grant, both minors, bring this action on their own behalf and are also
17 represented by their mother, Valerie Serrels, who also resides in Timberville, Virginia.

18 **D. ZOE J.**

19 40. Zoe J. is 16 years old and resides in San Francisco, California. Zoe is a
20 beneficiary of the Public Trust in our atmosphere and is owed a fiduciary duty by the United
21 States government. Since childhood, Zoe has actively been involved in protecting both the safety
22 of her environment, and the safety of those who inhabit it. In Junior High School, she worked
23 closely with the organization "Teens Turning Green" on an initiative called "Lips Against Lead,"
24 in which Zoe helped to gather signatures to petition for a law that banned lead in lipstick. She
25 also served as a class representative in her elementary school Eco-Council.

26 41. Zoe resides in the San Francisco Bay Area. San Francisco Bay is a large estuary
27 that will be dramatically impacted by rising sea levels that will accompany drastic climate
28 change, including global warming. Water treatment facilities and other essential infrastructure

1 located near sea level around the Bay will require extremely expensive repair, or even relocation,
2 in the event that sea levels continue to rise. While visiting friends and family Zoe has become
3 familiar with the Sacramento-San Joaquin River Delta. The Delta forms the east boundary of San
4 Francisco Bay and is the hub of the State's water system. The entire ecosystem and water
5 capacity of the Delta is likely to be severely impacted as a result of these rising sea levels. A
6 huge part of California's population and economy depends on water transported through the
7 Delta.

8 42. Zoe has had the opportunity to visit East Africa and is concerned about the
9 expansion of malaria in highland areas as temperature increases in this region. In 2004, the
10 United States government invested almost \$200 million in the research and development of
11 malaria treatments and additional aid to fund malaria prevention and control. Zoe believes that
12 investment in curbing global warming will also pay benefits by limiting the expansion of malaria.

13 43. Zoe has also had the opportunity to visit her uncle in the Florida Panhandle. Her
14 uncle sells fishing boats and supplies and she has a deep appreciation for the sensitive habitat of
15 Apalachicola Bay and the fisheries and oyster production that occurs there. She has spent many
16 hours fishing and learning about the livelihood of this part of our country. Global warming
17 related sea level rise also would have a devastating impact on Apalachicola Bay, and her uncle's
18 business.

19 44. Zoe, a minor, brings this action on her own behalf and is also represented by her
20 mother, Nina Grove, who also resides in San Francisco, California.

21 **E. KIDS vs GLOBAL WARMING**

22 45. Plaintiff KIDS vs GLOBAL WARMING ("KvGW") is a non-profit organization
23 committed to creating opportunities for youth to learn about the science and solutions of human
24 made climate change, and then to take action that will reduce dependence on fossil fuels and
25 influence governments throughout the world to make good decisions now that impact the future
26 of youth and generations to come. KvGW is a membership organization of over 10,000 youth
27 from all over the country who are concerned about how human made climate change is affecting
28 and will continue to affect them and their future. KvGW brings this action on behalf of its

1 members. The members of KvGW are beneficiaries of the Public Trust in our atmosphere and are
2 owed a fiduciary duty by the United States government. The actions of Defendants, and each of
3 them, are injuring KvGW's members in ways that are germane to the organization's mission.
4 Namely, Defendants, and each of them, are causing harm to and failing to protect the atmosphere
5 on which KvGW's members rely for their health, well-being and survival. KvGW brings this
6 action on behalf of its members.

7 **F. WILDEARTH GAURDIANS**

8 46. Plaintiff WILDEARTH GUARDIANS ("Guardians") is a non-profit conservation
9 organization. Guardians is dedicated to protecting and restoring wildlife, wild rivers, and wild
10 places in the American West, and to safeguarding Earth's climate and air quality. Towards this
11 end, Guardians and its members work to replace fossil fuels with clean, renewable energy in order
12 to safeguard public health, the environment, and Earth's climate for future generations. Guardians
13 brings this action on its own behalf and on behalf of its adversely affected members. Guardians
14 has approximately 4,500 members, many of whom live, work, or recreate in Colorado. The
15 members of Guardians are beneficiaries of the Public Trust in our atmosphere and are owed a
16 fiduciary duty by the United States government.

17 47. The failure of Defendants, and each of them, to perform their fiduciary duties as
18 described herein affects each Plaintiff, as well as the staff and members of Plaintiffs KvGW and
19 Guardians, by depriving them of protection and opportunities. The failure of Defendants, and
20 each of them, to perform their fiduciary duties also creates uncertainty each Plaintiff, as well as
21 the staff and members of Plaintiffs KvGW and Guardians, as to whether they are improperly and
22 unnecessarily exposed to human made climate change.

23 48. The survival, health, recreational, scientific, cultural, inspirational, spiritual,
24 educational, aesthetic, emotional well-being and other rights and interests of Plaintiffs, and each
25 of them, are and will be increasingly adversely and irreparably injured by the failure of
26 Defendants, and each of them, to stop the injurious use of natural resources unless the relief
27 requested here is granted. Likewise, the ongoing breach of the duty to preserve and protect the
28 atmosphere for present and future beneficiaries, which has not been abated or properly mitigated,

1 will continue to adversely and irreparably injure Plaintiffs, and each of them, unless the relief
2 requested here is granted. These are actual, concrete injuries to Plaintiffs, and each of them, that
3 would be redressed by the relief sought here.

4 49. The above injuries will continue until this Court grants the relief requested herein.

5 **G. DEFENDANTS**

6 50. Defendant United States Environmental Protection Agency (“EPA”) is a federal
7 agency. Its mission is to protect human health and the natural environment, on which life
8 depends, including air, water and the land. As part of this duty, it must ensure that federal laws
9 protecting human health and the environment are implemented and enforced effectively and
10 fairly. EPA has failed to preserve and protect the atmosphere and has failed to effectively
11 implement and enforce the laws under its jurisdiction for this purpose, for present and future
12 generations.

13 51. Defendant Lisa P. Jackson is the Administrator of EPA, and is responsible for all
14 actions of the EPA.

15 52. Defendant United States Department of Interior (“DOI”) manages one-fifth of the
16 country’s land, including forests and grazing lands, 35,000 miles of coastline and 1.76 billion
17 acres of the Outer Continental Shelf. DOI’s mission is to protect America’s natural resources and
18 heritage, honor cultures and tribal communities, and supply the energy to power the future of
19 America. It has a duty to uphold the United States government’s trust responsibilities. DOI has
20 failed to preserve and protect the atmosphere and has failed to provide climate-safe energy to
21 power not just today’s America, but America for future generations without wasting the
22 atmospheric trust. DOI has contributed to and continues to contribute to the climate catastrophe
23 by permitting logging, livestock grazing, off-road vehicle use, the extraction of coal, coal-bed
24 methane, oil, oil shale and natural gas, and oil, coal and electric infrastructure and transmission
25 facilities on public land. DOI continues to fail to preserve and protect the Public Trust in our
26 atmosphere from greenhouse gases from all of the aforementioned activities under its jurisdiction.

27 53. Defendant Kenneth L. Salazar is the Secretary of DOI, and is responsible for all
28 actions of DOI.

1
2 54. Defendant United States Department of Agriculture (“USDA”) has authority over
3 our nation’s food, agriculture, and many natural resources, including national forests, which serve
4 the vital role of absorbing carbon dioxide from our atmosphere – commonly referred to as
5 “carbon sequestering.” USDA has contributed to and continues to contribute to the climate
6 catastrophe by permitting large-scale logging in national forests, and it continues to fail to
7 preserve and protect the atmospheric trust from greenhouse gases from farming, agricultural
8 practices, and fossil fuel extraction and use under its jurisdiction.

9 55. Defendant Thomas J. Vilsack is the Secretary of USDA and responsible for all
10 actions of that agency.

11 56. Defendant United States Department of Commerce (“Commerce”) is a federal
12 agency whose mission is to help make American businesses more innovative at home and more
13 competitive abroad. Through its bureau, NOAA, it is also responsible for preserving and
14 protecting natural resources, including fisheries, coastal areas, marine life, and our atmosphere.
15 Commerce has failed to preserve and protect the atmosphere and other natural resources under its
16 jurisdiction and has failed prevent the waste of the Public Trust in the atmosphere in its efforts to
17 make American industry competitive.

18 57. Defendant Gary F. Locke is the Secretary of Commerce, and is responsible for all
19 actions of that agency.

20 58. Defendant United States Department of Energy (“DOE”) is a federal agency
21 whose mission is to advance the national, economic, and energy security of the United States
22 through clean, reliable, and affordable energy, to protect the environment, and to encourage
23 innovations in science and technology that improve the quality of life. DOE has failed to
24 preserve and protect the atmosphere by advancing clean, reliable, and affordable energy to
25 replace fossil fuel sources of energy, which are wasting the trust asset.

26 59. Secretary Steven Chu, in his official capacity, is responsible for all actions of the
27 Department of Energy.

28

1 60. Defendant United States Department of Defense (“DOD”) is a federal agency
2 whose mission includes protecting the security of our country. DOD is the oldest and largest
3 government agency. It is the nation’s largest employer and is responsible for enormous
4 greenhouse gas emissions from its vehicle fleet, electricity for buildings, and its weapons
5 infrastructure. DOD has contributed and continues to contribute to the climate warming situation
6 and the waste of the Public Trust in the atmosphere DOD is also failing to preserve and protect
7 the atmosphere, which threatens the security of life on Earth and the security of our nation due to
8 the instability the climate crisis is creating and will continue to create around the world. For
9 example, the number of human made climate change refugees will continue to increase as
10 weather events and lack of steady supplies of food and water increase across the world. Also as
11 climate security diminishes, largely as a result of the United States government’s historic
12 emissions and failure to protect the atmosphere, animosity towards the United States will
13 continue to increase.

14 61. Defendant Robert M. Gates is the Secretary of DOD, and is responsible for all
15 actions of DOD.

16 62. Collectively, these Federal agencies are charged with protecting citizens and the
17 nation; encompassed within this duty is the preservation of a habitable planet. According to the
18 White House, “[t]he Federal Government occupies nearly 500,000 buildings, operates more than
19 600,000 vehicles, employs more than 1.8 million civilians, and purchases more than \$500 billion
20 per year in goods and services. As the single-largest energy consumer in the U.S. economy, the
21 Federal Government spent more than \$24.5 billion on electricity and fuel in 2008 alone.” Despite
22 clearly stated responsibilities to protect and improve the quality of life for all Americans,
23 Defendants, and each of them, are actually contributing, actively and passively, to a serious threat
24 to individual and national security.

25 **V. FACTS GIVING RISE TO PLAINTIFFS’ CLAIMS**

26 **A. THE PUBLIC TRUST DOCTRINE**

27 63. Plaintiffs bring this action to enforce mandatory duty of Defendants, and each of
28 them, under the Public Trust Doctrine. The Public Trust Doctrine requires Defendants, and each

1 of them, to hold vital natural resources in “trust” for present and future generations of its citizens.
2 These resources are so vital to the well-being of our people that they must be protected by
3 distinctive, long-standing judicial principles. As the Supreme Court has stated on numerous
4 occasions, “the police power embraces regulations designed to promote public convenience or the
5 general welfare, and not merely those in the interest of public health, safety, and morals.”
6 *Nashville, Chattanooga & St. Louis Railway v. Walters*, 294 U.S. 405, 429 (1935). The
7 atmosphere, including the air, is one of the crucial assets protected by the Public Trust Doctrine.
8 The Public Trust imposes a duty on Defendants, and each of them, to affirmatively preserve and
9 protect our nation’s trust assets from damage or loss, and not to use our nation’s trust assets in a
10 manner that causes injury to the trust beneficiaries, present and future. The sovereign trustee has
11 an affirmative fiduciary duty to prevent waste, to use reasonable skill and care to preserve the
12 trust property, and to maintain trust assets.

13 64. The sovereign’s fiduciary duty in this instance is defined by scientists’ concrete
14 prescriptions for carbon reductions. Scientists have clearly expressed the minimum carbon
15 dioxide reductions needed to restore Earth’s climate equilibrium, and the requisite timelines for
16 implementation of those reductions. Defendants, and each of them, may not disclaim their
17 fiduciary duty and are subject to an ongoing mandatory duty to preserve and protect these
18 resources.

19 **B. EARTH’S ATMOSPHERIC CLIMATE EMERGENCY**

20 65. Global heating is significantly and adversely impacting Earth’s climate. Although
21 some degree of global heating is a normal natural phenomenon, the trend of global heating in the
22 past several decades has occurred largely as a result of human activities that release heat-trapping
23 greenhouse gases and intensify Earth’s natural greenhouse effect, at an accelerated rate, thereby
24 changing Earth’s climate. This abnormal climate change is unequivocally human-induced, is
25 occurring now, and will continue to occur unless drastic measures are taken to curtail it. Human
26 made climate change is damaging natural and human systems, and, if unrestrained, will threaten
27 our planet’s habitability for humans as well as countless other species. According to Defendant
28 DOI, “climate change is affecting every corner of the American continent.”

1 66. According to Defendant EPA, “greenhouse gases in the atmosphere may
2 reasonably be anticipated both to endanger public health and to endanger public welfare.” In
3 April 2009, the EPA further stated “[t]he evidence points ineluctably to the conclusion that
4 *climate change is upon us* as a result of greenhouse gas emissions, that *climate changes are*
5 *already occurring that harm our health and welfare, and that the effects will only worsen over*
6 *time in the absence of regulatory action.*”

7 **C. HOW HUMANITY HAS CHANGED EARTH’S CLIMATE SYSTEM**

8 67. Human beings have lived on Earth for the last 12,000 years, during which time
9 human civilization has developed – i.e., Earth’s atmospheric amounts of GHGs, including CO₂
10 and water vapor, were “just right” to maintain the climate we have enjoyed for thousands of
11 years. Earth’s atmosphere has far lower GHG levels than those of Venus, which is too hot, and
12 more than those of Mars, which is too cold, for life that has developed on this planet. Moreover,
13 during these 12,000 years, coastlines, sea levels, and global average temperatures have remained
14 relatively constant, allowing the development of ports and commerce, as well as large-scale
15 agriculture.

16 68. GHGs in the atmosphere act somewhat like a blanket over Earth in preventing
17 some of the heat emitted by the surface from escaping to space. More GHGs in the atmosphere
18 mean more heat being retained on Earth, with less radiating out to space. Without this
19 greenhouse effect, the global average surface temperature of our planet would be about 0°F (-
20 8°C) instead of 59°F (15°C). Scientists have understood this basic mechanism of global energy
21 balance since the mid-nineteenth century.

22 69. Since the pre-industrial period, human beings have significantly altered the
23 chemical composition of Earth’s atmosphere and its climate system. We have changed the
24 atmosphere and its climate system by engaging in activities that produce or release GHGs into the
25 atmosphere – burning fossil fuels, driving cars, raising livestock on an industrial scale, and cutting
26 down forests. Although much excess CO₂ is absorbed by the oceans and by plants (chiefly
27 forests), the increase of GHG concentrations resulting from historic and current human activities
28 has altered Earth’s ability to maintain the delicate balance of the energy it receives from the sun

1 and radiates back into space. This human-induced global energy imbalance has caused most of
2 the global warming over the last approximately 50 years.

3 70. Current CO₂ concentration in our atmosphere is 390 ppm (compared to the pre-
4 industrial concentration of 280 ppm). Current atmospheric CO₂ concentrations are likely the
5 highest in at least 800,000 years.

6 71. Concentrations of other GHGs in the atmosphere have also increased from human
7 activities. Atmospheric concentrations of methane (CH₄), for example, have increased nearly
8 150% since the pre-industrial period, and they too are higher than at any time in at least the last
9 800,000 years. Concentrations of nitrous oxide (N₂O) have also increased.

10 72. We not only continue to add GHGs into the atmosphere at a rate that outpaces their
11 removal through natural processes, but the current and projected CO₂ increase, for example, is
12 about a hundred times faster than has occurred over the past 800,000 years.

13 73. This increase must be considered in light of the lifetime of GHGs in the
14 atmosphere. In particular, a substantial portion of every ton of CO₂ emitted by humans persists in
15 the atmosphere for as long as a millennium or more. The concentrations of GHGs in the
16 atmosphere therefore are the cumulative result of historic and current emissions.

17 **D. EARTH IS GETTING TOO HOT TOO FAST DUE TO HUMAN**
18 **ACTIVITIES**

19 74. Climate refers, among other things, to temperature, precipitation, and wind
20 patterns that occur over multiple years, decades, centuries, or longer. Climate is different from
21 weather and does not typically vary in a short time (e.g., under a year) unless something abruptly
22 forces such a change – such as unusually large volcanic eruptions that darken the sky and block
23 out the sun’s heat. Humans have become the “primary driver” of climate change. These changes
24 are observable. Climate change we are experiencing now is unique because it not only is due to
25 human causes but is occurring much faster than was ever anticipated.

26 75. Human made climate change is a unique problem because it now threatens the
27 integrity of the biosphere in which human life and civilization has developed. Left unchecked,
28 human made climate change is putting our human civilization at risk. Observations over recent

1 years, evidence of Earth's past climate, well-established scientific principles, and the results of
2 sophisticated models of climate all point to changes caused by the warming of our planet that will
3 detrimentally impact all aspects of our life, including not just the environment and human health
4 and welfare, but commerce and the world economy, military security and the stability of
5 governments everywhere. Warming will further make many problems, such as global and
6 societal inequality, worse, because its impacts will fall unequally both geographically and
7 socioeconomically.

8 76. One key observable change is the rapid increase in recorded global surface
9 temperatures over the past several decades. As a result of increased atmospheric GHGs from
10 human activities, based on fundamental scientific principles, Earth has been warming at an
11 accelerated rate. Those increased concentrations of GHGs in our atmosphere, primarily CO₂,
12 have raised global surface temperature by 1.4°F (0.8°C) over the industrial era (the last hundred
13 to hundred fifty years). In the last thirty years, the acceleration of change has intensified as Earth
14 has been warming at a rate about three times faster than that over the last hundred years. This is a
15 known fact based on thermometer readings from around the globe that date from the 1800s, as
16 well as data recently gathered by satellites.

17 77. Because of year-to-year variations in these thermometer readings, as with daily
18 readings, scientists compare temperature differences over multiple decades to determine patterns.
19 Using this decadal scale, the surface of the planet has warmed at a rate of roughly 0.3 to 0.4°F
20 (0.15 to 0.2°C) per decade since the late 1970s. As a result of this accelerated global warming,
21 Earth is now within 1.8°F (1°C) of its highest temperature in the past million years.

22 78. The dramatic increase of 1.4°F (0.8°C) in the average global surface temperature
23 over the industrial era is alarming. By comparison, the global surface temperature during the last
24 Ice Age was about 9°F (5°C) cooler than today. In contrast to daily *ambient* temperatures, which
25 can easily vary as much as 15°F, the average global surface temperature had remained relatively
26 stable for the last 12,000 years, during which period human civilization developed, until it began
27 a sudden climb.
28

1 79. The IPCC has observed that “[w]arming of the climate system is unequivocal.”
2 The NAS, the Science Academies of eleven nations, and the first Synthesis and Assessment
3 Product of the U.S. Climate Change Science Plan corroborate the IPCC’s fundamental
4 conclusion, as does every relevant professional scientific society both in the United States and
5 throughout the world.

6 80. Consistent with this expected warming, two of the last ten years (2005 and 2010)
7 rank as the warmest years since 1850, when continuous temperature measurements began to be
8 recorded (which is called the period of instrumental records). A small rise in global average
9 ambient temperature, like the rise in a baseball team’s batting average, can be the result of many
10 small changes (all 25 players lift their average by .002 percentage points), or some small changes
11 and a few very large changes (ten players increase by .0025 and one player gets hot and raises his
12 average by .025 points.) Similar scenarios are happening to our Earth. More than a dozen
13 nations experienced record high temperatures the summer of 2010. For the first time in the period
14 of instrumental records, Moscow, Russia, experienced temperatures in excess of 100°F. Several
15 regions of our nation also experienced unusual summertime heat waves last year. Notably, these
16 record-breaking temperatures occurred during a period of minimum solar heating. In addition to
17 higher extreme temperatures, spring is coming earlier to many regions and winter is coming later.
18 Eight of the ten warmest years during the period of instrumental records occurred since 2001.
19 Warming has been greatest in the polar regions and at higher altitudes.

20 **E. OTHER SIGNS VERIFY THE ATMOSPHERE’S CLIMATE SYSTEM IS**
21 **WARMING ALARMINGLY FAST**

22 81. Direct temperature readings are not the only signs of this abnormal interdecadal
23 global warming trend. Changes in many different aspects of Earth’s climate system over the past
24 century are consistent with this warming: based on straightforward scientific principles, human-
25 induced GHG increases lead not only to land surfaces warming, but also to warming oceans,
26 warming subsurface (i.e., Earth’s upper crust), increased atmospheric moisture levels, rises in the
27 global sea level, and changes in rainfall and atmospheric air circulation patterns that affect water
28 and heat distribution.

1 **1. WARMING OCEANS**

2 82. As expected, consistent with the temperature increases in land surfaces, global
3 average ocean temperatures have increased. The mean global sea surface temperature is about
4 0.6°F (0.35°C) higher than the base line for the period 1961 to 1990. In addition, the most
5 efficient indicator of our planet’s energy imbalance due to human-induced GHG increases is the
6 long-term increase in global average ocean heat content over the last 50 years, extending down to
7 several thousand meters below the ocean surface.

8 **2. CHANGING PRECIPITATION PATTERNS**

9 83. As expected, precipitation patterns have changed due to increases in atmospheric
10 moisture levels and changes in atmospheric air circulation patterns, yet another indicator that
11 Earth is warming. With further global warming, moisture levels are expected to increase further
12 because warmer air generally holds more moisture. In more arid regions, however, higher
13 temperatures generally lead to greater net evaporation, i.e. exacerbation of the aridity.

14 84. These changes in Earth’s water cycle increase the potential for, and severity of,
15 severe storms, flooding and droughts. Storm-prone areas are already experiencing a greater
16 chance of severe storms, and this will continue. Even in arid areas precipitation may fall all at
17 once and cause flash flooding, followed by drought.

18 85. We have seen such changes already. Droughts in parts of the western and
19 southwestern United States have increased in frequency and severity within the last fifty years,
20 coincident with rising temperatures. In 2009, more than half of the United States received above
21 normal precipitation; yet the southwestern United States, Arizona in particular, had one of its
22 driest periods. In addition, the frequency and intensity of the heaviest rainfall has increased
23 substantially in our nation over the last 50 years, most strikingly in the Northeast.

24 86. Based on the laws of physics and the past climate record, scientists have concluded
25 that precipitation events will increase globally, particularly in tropical and high latitude regions,
26 while decreasing in subtropical and mid-latitude regions, with longer periods between normal
27 heavy rainfalls.

28

1 87. Other changes consistent with climate modeling resulting from human-induced
2 global warming have been observed, not just in the intensity and frequency of precipitation, but
3 also in the type of precipitation. In higher altitude and latitude regions, including in mountainous
4 areas, more precipitation is falling as rain rather than snow. With early snow melt occurring
5 because of human made climate change, the reduction in snowpack has already resulted in water
6 shortages in some areas. In other areas, the reverse is true. In Northern Europe and the
7 northeastern United States, a change in air currents caused by the warming Arctic brought severe
8 snowstorms both in 2009-2010 and in 2010-2011.

9 **3. RISING SEA LEVELS**

10 88. As expected, global sea levels have also risen. Sea levels have been rising at an
11 average rate of 3.26 millimeters per year based on measurements from 1993 to present. Global
12 average sea level rose about 17 centimeters (6.7 inches) in the last century; within the last decade,
13 however, that rate nearly doubled. Rising seas, brought about by melting of polar icecaps,
14 glaciers, and ice sheets, as well as by thermal expansion of the warming oceans, have already
15 caused flooding in low-lying areas. The combination of rising sea levels and more severe storms
16 greatly increases the odds of severe storm surges at high tides in coastal communities that can
17 overwhelm coastal defenses such as levees and sea walls, as happened with Hurricane Katrina.

18 89. Sea level is not uniform across the globe, but depends on such things as ocean
19 temperature and currents and land movements. Ocean currents and differences in sea surface
20 temperatures will also result in different sea level impacts in different parts of the world because
21 of the lay of the land. Most vulnerable are low-lying islands, river deltas, and areas that already
22 lie below sea level because of land subsidence. Based upon these factors, scientists have
23 concluded that the threats to the United States from rising seas are the most severe on the Gulf
24 and Atlantic Coasts. Worldwide hundreds of millions of people live in river deltas and vulnerable
25 coastlines along the southern and western coasts of Asia where rivers draining the Himalaya flow
26 into the Indian and Pacific Oceans. Although sea level rise projections are still fairly uncertain, in
27 a comprehensive review of studies on sea level rise in the 21st century published by the British
28 Royal Society, researchers estimated the probable sea level rise in this century at between .5 and

1 2 meters (1 ½ to 6 ½ feet), continuing to rise for several centuries after that, depending on future
2 CO₂ levels and the behavior of polar ice sheets.

3 90. In past periods of Earth's history, global warming led to major losses of ice in
4 Greenland and Antarctica. This knowledge provides a basis for scientists to estimate the amount
5 of sea level rise under similar surface temperature and CO₂ conditions.

6 **4. MELTING GLACIERS, ICE SHEETS, AND SEA ICE**

7 91. As expected, mountain glaciers, which are the source of freshwater for hundreds of
8 millions of people, are receding worldwide because of warming temperatures. Today, Glacier
9 National Park in Montana has only twenty five glaciers larger than twenty five acres, down from
10 150 in 1850. The year 2009 marked the 19th consecutive year in which glaciers lost mass in both
11 hemispheres. Mountain glaciers are in retreat all over the world, from Mt. Kilimanjaro in Africa
12 to the Himalaya to the Alps (99% in retreat) to the glaciers of Peru and Chile (92% in retreat) to
13 the United States. In the Brooks Range of northern Alaska all of the glaciers are in retreat and in
14 southeastern Alaska 98 percent are in retreat.

15 92. Though a minor contribution to sea level rise so far, the melting of mountain
16 glaciers is particularly serious in areas that rely on snow melt for irrigation and drinking water
17 supplies. In effect, a large snow pack or glacier acts as a supplemental reservoir or water tower,
18 holding a great deal of water in the form of ice and snow through the winter and spring and
19 releasing it in summer when rainfall is lower or absent. The water systems of the western United
20 States (particularly California) and the Andean nations of Peru and Chile, among other places,
21 rely heavily on such natural forms of water storage. In addition to providing a more reliable
22 water supply, the storing of precipitation as ice and snow helps moderate potential flooding. By
23 contrast, as temperatures warm not only will such areas lose this supplemental storage, but rain
24 falling on snow accelerates the melting of glaciers and snow packs, often causing severe flooding.
25 Ice is melting most dramatically at the poles. Temperatures in both the Arctic and Antarctica
26 have risen substantially faster than the global average in recent decades, and this temperature rise
27 has caused massive melting of glaciers and sea ice. Beginning in late 2000, the Jakobshavn
28 Isbrae Glacier, which has a major influence over the mass of the Greenland ice sheet, lost

1 significant amounts of ice. In August of 2010, an enormous iceberg roughly ninety-seven square
2 miles in size, broke off from Greenland. Nine Antarctic ice shelves have also collapsed into
3 icebergs in the last fifty years, six of them since 1996. An ice shelf roughly the size of Rhode
4 Island collapsed in 2002, and an ice bridge collapsed in 2009, leaving an ice shelf the size of
5 Jamaica on the brink of breaking apart. The 2002 collapse of the Larsen B Ice Shelf, which had
6 existed for at least 11,000 years, was “unprecedented in respect to both area and time.” The
7 “sudden and complete disintegration” of the Larsen B Ice Shelf took a mere 35 days.

8 93. During the peak of the 2007 melt season (September), the extent of Arctic sea ice
9 (frozen ocean water) declined precipitously to its lowest level since satellite measurements began
10 in 1979. Although the extent of Arctic sea ice was higher in September, 2010 than in September,
11 2007, in November 2010 new ice stopped forming as the Arctic underwent a warming period. By
12 the end of 2010 Arctic sea ice was at the lowest level in the satellite record for December.

13 94. Arctic sea ice plays an important role in stabilizing the global climate, because it
14 reflects back to space much of the solar radiation that the region receives. (In contrast, open
15 ocean water absorbs much more heat from the sun, thus amplifying human-induced warming. As
16 sea ice melts and is replaced by ocean water during the 24-hour Arctic summer, warming will
17 further increase.)

18 95. Scientists have also documented an overall trend of sea-ice thinning and
19 replacement of older ice with less resilient, younger ice. The year 2010 also marked a record low
20 spring snow cover in the Arctic since satellite observations began in 1966.

21 96. Similarly, there has been a general increase in permafrost (frozen ground)
22 temperatures and permafrost melting in Alaska and other parts of the Arctic, particularly in the
23 last five years. Scientists working in Siberia have documented substantial methane releases as
24 the permafrost melts. Because the Arctic permafrost region contains about twice as much carbon
25 as in the atmosphere, scientists believe and are concerned that melting of the permafrost may
26 release methane that will further increase global warming to even more dangerous levels.
27 Changes in these different aspects of Earth’s climate system over the last century tell a coherent
28 story: the impacts we see today are consistent with scientific understanding of how the climate

1 system should respond to GHG increases from human activities and how Earth has responded in
2 the past as reflected in such evidence as ice cores that have trapped air from hundreds of
3 thousands years ago, tree rings and seabed sediments that show where sea level was thousands
4 and even millions of years ago. Collectively, these changes cannot be explained as the product of
5 natural climate variability or a tilt in Earth's axis alone. A large human contribution provides the
6 best explanation of observed human made climate changes.

7 97. These well-documented and observable impacts from the changes in our climate
8 system show us that the current level of atmospheric GHGs (predominately CO₂) has already
9 taken the planet into a danger zone.

10 **5. HUMAN MADE CLIMATE CHANGE HURTS PUBLIC WELFARE AND WILL RESULT IN**
11 **UNIMAGINABLE CONSEQUENCES IF OUR GOVERNMENT DOES LITTLE OR NOTHING**

12 98. Earth will continue to warm in reaction to concentrations of CO₂ from past
13 emissions as well as future emissions. Warming already in the pipeline is mostly attributable to
14 climate mechanisms that slowly heat the climate system in response to atmospheric CO₂. We are
15 already committed to more warming, which is why we need to quickly reduce CO₂ emissions to
16 slow the rate of warming and draw down CO₂ concentrations from the atmosphere by protecting
17 carbon sinks and reforesting the planet. This lag between GHG increases and climate warming,
18 along with the very long lifetime of CO₂ in the atmosphere, demands that emissions reductions
19 begin immediately in order to minimize future human-induced warming.

20 99. Our oceans play a significant role in keeping our atmospheric climate in the safe-
21 zone. Oceans constantly absorb CO₂ and release it to the atmosphere, maintaining a balance.
22 Because we now release so much CO₂, oceans have absorbed about one-third of the CO₂ emitted
23 from human activity over the past two centuries. This capacity has slowed global warming, but at
24 a cost: the added CO₂ has changed the chemistry of the oceans, causing the oceans' average
25 surface pH (a measurement of hydrogen ions) to drop by an average of .11 units. Although this
26 drop may seem relatively small, the pH scale is logarithmic, so that a reduction of only one unit
27 means the solution has in fact become ten times more acidic. A drop of .1 pH units means that
28 the concentration of hydrogen ions in sea water has gone up by 30 percent in the past two

1 centuries. If CO₂ levels continue to rise to 500 ppm, we could see a further drop of .3 pH units by
2 2100.

3 100. Ocean acidification harms animals that use calcium to build their shells, as well as
4 single-celled organisms that are an essential part of the marine food chain. Harm occurs because
5 the acidified waters affect the structural integrity and survival of shell-building marine organisms
6 such as corals and shellfish by effectively robbing them of the key chemical (carbonate ion)
7 needed to build their skeletons. It also adversely impacts some kinds of algae and one-celled
8 organisms that use calcification processes for survival. Some of these organisms make up
9 features such as the White Cliffs of Dover. Coral reefs are major habitats for ocean fauna, and
10 calcifying algae and plankton are key components of the marine food chain. “The availability of
11 carbonate is also important because it controls the maximum amount of CO₂ that the ocean is able
12 to absorb.”

13 101. About 55 million years ago, the oceans absorbed a large amount of CO₂, likely due
14 to a release of methane from the ocean floor (which eventually was chemically converted to CO₂
15 in the atmosphere) that caused Earth’s temperatures to rise several degrees and led to the
16 extinction of many species worldwide. The absorption of so much CO₂ also led to the death of
17 calcifying organisms at the seafloor. It took over 100,000 years for the ocean to regain its normal
18 alkalinity. The current level of CO₂ (which is far lower than it was 55 million years ago) being
19 taken in by the oceans already decreases the ability of coral and other calcium-based marine life
20 to produce their skeletons, affecting the growing of coral and thus coral reefs. Other marine life,
21 such as algae, also exhibit a reduced growing ability. “Many of these organisms are important
22 components of the marine food web.” Ocean acidification can thus massively disrupt the food
23 chain, give non-calcium based creatures a competitive advantage, and limit the geographic reach
24 of calcium based creatures. In experiments, coral reef organisms have not demonstrated an
25 ability to adapt to decreasing carbonate saturation state. Finally, this disruption to the food web
26 could substantially alter the biodiversity and productivity of the ocean.

27 102. Another effect of warming of the oceans is the bleaching of corals. Corals contain
28 tiny algae that provide them with food and that accounts for their color. When the oceans warm,

1 the algae give off a toxin, and the corals, in order to survive the toxin, expel the algae, bleaching
2 the coral. If the water temperature does not fall enough to permit algae to survive within the coral
3 without releasing the toxin, the corals will eventually die. There have been several severe
4 episodes of coral bleaching in recent years. With continued warming, the coral may not be able
5 to survive.

6 103. Changes in water supply and water quality will also impact agriculture in the
7 United States. All crops have upper and lower limits beyond which seeds will not germinate.
8 Additionally, increased heat and associated issues such as increased pests, crop diseases, and
9 weather extremes (including drought) will impact crop and livestock production and quality. For
10 example, human made climate change in the nation has produced warmer summers, enabling the
11 mountain pine beetle to produce two generations of beetles in a summer, where it had previously
12 only been able to produce one; in Alaska, the spruce beetle is maturing in one year where it had
13 previously taken two years. The expansion of the forest beetle population has killed millions of
14 hectares of trees across the United States and Canada and caused millions of dollars in loss from
15 lost timber and tourism revenue.

16 104. Glacial and ice cap melting is a major cause of global sea level change. When
17 glaciers and ice caps melt, this melting adds water to the oceans. The other main cause is that as
18 ocean water warms, it expands and therefore takes up more space; ocean warming “has been
19 observed in each of the world’s major ocean basins, and has been directly linked to human
20 influences.”

21 105. Quantifying future sea level rise remains highly uncertain, although there is
22 overwhelming scientific consensus that the rise per se will continue and will be significant. The
23 IPCC estimates a 0.6-meter rise in sea level by 2100 under a worst-case scenario that does not
24 include contributions from the accelerated flow of major ice sheets. Some scientists predict a 2-
25 meter rise in sea level by 2100 if present trends continue. Today, rising sea levels are submerging
26 low-lying lands, eroding beaches, converting wetlands to open water, exacerbating coastal
27 flooding, and increasing the salinity of estuaries and freshwater aquifers. The impacts of rising
28 sea levels can be seen in many coastal locations across the nation. Along the Florida coast for

1 instance, sea level is rising about 2.5 centimeters (1 inch) every 11-14 years. This seemingly
2 small rise in ocean levels is contributing to massive erosion, causing many homeowners to
3 remove beach front property, and causing a decline in the recreational value of beaches. The
4 Florida Everglades are also being impacted; as sea levels rise, salt water advances inland and kills
5 many Everglade plant species, which also destroys the habitat value of swamplands for many
6 species. Other states such as Maryland and Louisiana are also experiencing wetland loss due to
7 rising sea levels. Scientists have predicted that wetlands in the Mid-Atlantic region of the United
8 States cannot withstand a 7 millimeter per year rise in sea levels.

9 106. Human-caused fossil fuel burning and the resulting climate change are already
10 contributing to an increase in asthma, cancer, cardiovascular disease and stroke, heat-related
11 morbidity and mortality, foodborne diseases, and neurological diseases and disorders.

12 107. As the 2010 Russian summer heat wave graphically demonstrated, excessive and
13 sustained heat destroys crops, triggers wildfires, exacerbates air pollution, and causes increased
14 illness and death. Similar impacts are occurring across the United States: the number and
15 frequency of forest fires and insect outbreaks are increasing in the interior West, the Southwest,
16 and Alaska. Precipitation, streamflow, and stream temperatures are increasing in most of the
17 continental United States. The western United States is experiencing reduced snowpack and
18 earlier peaks in spring runoff. The growth of many crops and weeds is being stimulated.
19 Migration of plant and animal species is changing the composition and structure of arid, polar,
20 aquatic, coastal, and other ecosystems. Wildfires in the western United States have quadrupled in
21 recent years, a result of hotter temperatures and earlier snowmelt that contributes to dryer soils
22 and vegetation.

23 108. Similarly, human made climate change is already causing and will continue to
24 cause more frequent extreme and costly weather events such as hurricanes. The annual number
25 of major tropical storms and hurricanes has increased over the past 100 years in North America,
26 coinciding with increasing temperatures in the Atlantic sea surface.

27 109. Human-induced climate change also raises national security concerns, as climate
28 change will add to tensions even in stable regions of the world. Our nation may experience an

1 additional need to accept immigrant and refugee populations as droughts increase and food
2 production declines in other countries. Increased extreme weather events such as hurricanes will
3 also present an increased strain on foreign aid and call for military forces. For instance, by 2025,
4 40 percent of the world's population will be living in countries experiencing significant water
5 shortages, while sea-level rise could cause displacement of tens or even hundreds of millions of
6 people.

7 110. Paleoclimate (Earth history) data provide sobering evidence that major human
8 made climate change can occur in decades, and the consequences would be much more severe,
9 and even disastrous, if a 2°C (3.6°F) change above pre-industrial levels occurs over decades
10 rather than hundreds of years.

11 111. There are at least three reasons the present, human-induced global warming is
12 particularly significant.

13 112. *First*, past global warming/cooling of a similar magnitude occurred before human
14 civilization.

15 113. *Second*, global warming is happening far more rapidly than in many past times,
16 giving both humans and other forms of life only short (and therefore infeasible) time to adapt to
17 the changes. Human civilization, and the crops and foods on which it depends, have developed
18 within a very narrow set of climatic conditions. With human population so large, with
19 civilization so complex, centered around coastal cities and dependent on water supplies fed by
20 distant ice and snow melt, and with the great disparities in wealth between and within countries
21 and regions, we will find it nearly impossible to adapt to all of the human made climate change
22 impacts in the quick time-frame in which they will occur.

23 114. *Third*, and perhaps most important, the climate change we are now experiencing is
24 caused largely by human activity. This means that unlike with respect to past climate change
25 events, by changing our activities humans can mitigate or even reverse this warming before it
26 causes catastrophic and irreversible effects. Stopping, or at least greatly curtailing, the activities
27 that discharge greenhouse gases into the air, primarily burning of fossil fuels and deforestation,
28 and encouraging activities such as reforestation that remove CO₂ from the atmosphere, can

1 greatly reduce and even end global warming and its accompanying consequences within the
2 lifetimes of today's children.

3 **6. REMEDYING PLAINTIFFS' INJURIES BY RESTORING THE ATMOSPHERE AND EARTH'S**
4 **NATURAL SYSTEMS**

5 115. Our climate system continues to be harmed at an alarming rate, all to the detriment
6 of Earth as we know it. The atmosphere already contains excessive concentrations of CO₂.
7 Continued greenhouse gas pollution by any nation on Earth, including the United States, will
8 continue to waste this commonly held asset.

9 116. To protect Earth's climate for future generations, we must restore Earth's energy
10 balance. The best available science shows if the planet once again sends as much energy into
11 space as it absorbs from the sun, this will restore the planet's climate equilibrium. Scientists have
12 accurately calculated how Earth's energy balance will change if we reduce long-lived greenhouse
13 gases such as carbon dioxide. Humans are currently causing a planetary energy imbalance of
14 approximately one-half watt per square meter. We would need to reduce atmospheric
15 concentrations of carbon dioxide by 35 to 40 ppm to increase Earth's heat radiation to space and
16 return its energy balance, if other long-lived gases stay the same as today. That reduction would
17 make atmospheric carbon dioxide amount to about 350 ppm.

18 117. The best available science also shows that to protect Earth's natural systems,
19 average global peak surface heating must not exceed 1° C this century. To prevent global heating
20 greater than 1° C, concentrations of atmospheric CO₂ must decline to less than 350 ppm within
21 this century. However, today's atmospheric CO₂ levels exceed 389 ppm and are rising.

22 118. The best available science also concludes that to protect Earth's oceans -- an
23 essential harbor of countless life forms and absorber of GHGs, or "GHG sink" -- atmospheric
24 CO₂ levels must be reduced to 350 ppm or lower.

25 119. Atmospheric CO₂ levels are currently on a path to reach over 400 ppm by 2020.
26 Absent immediate action to reduce CO₂ emissions, atmospheric CO₂ could reach levels as high as
27 about 1000 ppm and a temperature increase of up to 5° F by 2100. Life as we know it is
28 unsustainable at these levels.

1 120. Even if CO₂ emissions were instantaneously halted – i.e., if fossil fuel emissions
2 and deforestation were abruptly terminated in 2011 -- it would still take until around 2060 before
3 CO₂ levels would decline to below 350 ppm. If global fossil fuel CO₂ emissions continue to grow
4 at the rate of the past decade (about two percent per year) up until the time that emissions are
5 terminated, and termination does not occur until 2030, when CO₂ levels have reached over 450
6 ppm, CO₂ would not return to 350 ppm until about 2250. With a 40-year delay (to 2040), CO₂
7 levels would surpass 500 ppm, and would not return to 350 ppm until after year 3000.

8 121. Even restoring the planet's energy balance will not immediately stop sea level rise
9 that is in the pipeline, but it would help keep that rise relatively under control. It would also
10 prevent human made climate change from becoming a huge force for species extinction and
11 ecosystem collapse. Up to 30 per cent of the millions of species on our planet could go extinct
12 following just a few tenths of a degree warming above present.

13 122. Defendants have the present ability to curtail the environmental harms detailed
14 above. Atmospheric CO₂ will decrease if people stop or greatly reduce the burning of fossil fuels.
15 CO₂ emitted into the atmosphere by burning fossil fuels is slowly distributed among other surface
16 reservoirs, especially the ocean. Carbon cycle models can simulate how rapidly the fossil fuel
17 CO₂ injection is removed from the atmosphere and distributed among the other carbon reservoirs
18 such as the oceans and forests. Although most of the CO₂ is removed by natural processes, after
19 500 years almost one-fifth of the fossil fuel increment to atmospheric CO₂ will still be in the air.
20 Because of this persistence, it is imperative to reduce CO₂ emissions immediately, with
21 substantial reductions at the earliest possible time. Any more delay risks irreversible and
22 unacceptable consequences for generations to come.

23 123. Fossil fuel emissions must decrease rapidly if atmospheric CO₂ is to be returned to
24 a safe level in this century. Improved forestry and agricultural practices can provide a net
25 drawdown of atmospheric CO₂, primarily via reforestation of degraded lands that are of little or
26 no value for agricultural purposes, returning us to 350 ppm somewhat sooner. However, the
27 potential of such measures is limited. Drawdown of atmospheric CO₂ via reforestation is
28

1 essential for the purpose of getting atmospheric CO₂ down to a safe level. However, reforestation
2 alone will not be sufficient, and must be accompanied by a phase down of fossil fuel emissions.

3 124. The failure to act promptly to reduce CO₂ emissions will not only increase the
4 costs of future reductions, it will have irreversible adverse effects on Plaintiffs and all future
5 generations, as detailed above.

6 125. To have the best chance of reducing the concentration of CO₂ in the atmosphere to
7 350 ppm by the end of the century and avoid heating over 1 degree Celsius over pre-industrial
8 temperatures, the best available science concludes that atmospheric carbon dioxide emissions
9 need to peak in 2012 and then begin to decline at a global average of 6% per year through 2050
10 and 5% per year through 2100. In addition, carbon sequestering forests and soils must be
11 preserved and replanted to sequester an additional 100 gigatons of carbon through the end of the
12 century. However, if CO₂ emissions continue to rise until 2020, CO₂ emissions must decline by
13 12% per year to reach 350 ppm by the end of the century. The sooner Defendants take the
14 necessary action to draw down the excessive CO₂ from the atmosphere and to fulfill their Public
15 Trust responsibilities, the easier these reductions will be.

16 126. According to the principle of common but differentiated responsibilities of nations,
17 the United States bears a significant share of carbon reductions. To prevent the environmental,
18 economic, societal, health, and aesthetic injuries detailed herein, the United States must reduce its
19 emissions by the greatest extent feasible and at least the global average of 6% per year.

20 127. Even if the United States eliminated all of its GHG emissions, it would not be able
21 to reduce its fair share of GHGs resulting from its historic emissions. In order to take on its fair
22 share of emissions reductions, the United States would also need to help other sovereign nations,
23 with limited economic and technological resources, to reduce their GHG emissions and protect
24 and restore their carbon sequestering forests.

25 128. A zero-CO₂ U.S. energy system can be achieved within the next thirty to fifty
26 years without acquiring carbon credits from other countries. In other words, actual physical
27 emissions of CO₂ from fossil fuels can be eliminated with technologies that are now available or
28 reasonably foreseeable. This can be done at reasonable cost by eliminating fossil fuel subsidies

1 and creating annual and long-term CO₂ reduction targets. Net U.S. oil imports can be eliminated
2 in about 25 years, possibly less. The result will also include large ancillary health benefits from
3 the significant reduction of most regional and local air pollution, such as high ozone and
4 particulate levels in cities, which is mainly due to fossil fuel combustion.

5 129. The approaches to transition to a renewable energy system and to phase out fossil
6 fuels by about 2050 include: A single national cap on fossil fuel use that declines to zero by
7 2050 or a gradually rising carbon tax with revenues used to promote a zero-CO₂ emissions
8 energy system and to mitigate adverse income-distribution effects; increasingly stringent
9 efficiency standards for buildings, appliances, and motor vehicles; elimination of subsidies for
10 fossil fuels, nuclear energy, and biofuels from food crops coupled with investment in a vigorous
11 and diverse research, development and demonstration program (including smart grid and storage
12 technologies, electrification of transportation, stationary fuel cells for combined heat and power,
13 biofuels from aquatic weeds like microalgae, use of aquatic weeds like microalgae in integrated
14 gasification combined cycle plants, and use of hydrogen-fueled passenger aircraft); banning new
15 coal-fired power plants; adoption of a policy that would aim to have essentially carbon-free state,
16 local, and federal governments, including almost all of their buildings and vehicles by 2030; and
17 adoption of a gradually increasing renewable portfolio standard for electricity until it reaches 100
18 percent by about 2050.

19 **VI. PLAINTIFFS' CLAIMS FOR RELIEF**

20 **CLAIM I: VIOLATIONS OF THE PUBLIC TRUST DOCTRINE**

21 130. Plaintiffs hereby reallege and incorporate all of the preceding paragraphs.

22 131. The United States, as a sovereign nation, has a duty as trustee to protect natural
23 resources under the Public Trust Doctrine. The Public Trust Doctrine is an attribute of
24 sovereignty that cannot be abrogated. As long as the sovereign exists, so do the sovereign's
25 duties under the Public Trust Doctrine.

26 132. Defendants, and each of them, as agencies and officers of the federal government,
27 are subject to fiduciary duties under the Public Trust Doctrine as trustee of the natural resources
28 of the United States, including our atmosphere in its ambient or interstate aspects.

1 133. Defendants, and each of them, are trustees of Public Trust resources including the
2 atmosphere pursuant to the Due Process Clauses of the 5th and 14th Amendments to the
3 Constitution of the United States.

4 134. Defendants, and each of them, are trustees of the Public Trust resources including
5 the atmosphere pursuant to Equal Protection principles of the 14th Amendment to the Constitution
6 of the United States.

7 135. Defendants, and each of them, are trustees of Public Trust resources including the
8 atmosphere pursuant to the Commerce Clause of the Constitution of the United States.

9 136. Defendants, and each of them, are trustees of Public Trust resources pursuant to
10 statutory provisions committing to the people of the United States that the United States
11 government will hold natural resources in trust for the benefit of the people.

12 137. The United States government is a co-tenant sovereign trustee of the atmosphere
13 and shares a duty with other co-tenant sovereigns, including Tribal Nations, to protect the
14 atmosphere as the trust asset and prevent its waste or harm for the benefit of the people, including
15 Plaintiffs and future generations of citizens.

16 138. As a co-tenant sovereign trustee, the federal government has an interest
17 independent of and behind the titles of its citizens, in all the earth and air within its domain,
18 particularly as necessary to maintain its affirmative and ongoing duty to protect Public Trust
19 assets.

20 139. Defendants, and each of them, have allowed, facilitated, and contributed to the
21 waste of trust assets and otherwise failed to preserve and protect these assets, including the
22 atmosphere, by allowing it to become polluted with high levels of human-caused CO₂.

23 140. Defendants, and each of them, have wasted and failed to preserve and protect the
24 atmosphere Public Trust asset, and have caused and will continue to cause imminent injuries as
25 described above, from increased greenhouse gas emissions, global heating, and adverse impacts
26 to natural and other resources.

27 141. Defendants, and each of them, have injured Plaintiffs by failing to protect the
28 atmosphere as a Public Trust asset.

1 b. The United States government has a fiduciary duty, as a trustee, to preserve
2 and protect the atmosphere as a commonly shared Public Trust asset, and to refrain from taking
3 actions that waste or damage this asset;

4 c. The fiduciary obligation is enforceable by Plaintiffs, and each of them, as
5 citizen beneficiaries of the Public Trust who represent present and future generations;

6 d. The fiduciary obligation is dictated by the best available science on
7 protecting a sustainable atmosphere and climate for present and future generations.

8 e. Defendants, and each of them, have violated their fiduciary duties as
9 trustees of the atmosphere by contributing to and allowing unsafe amounts of greenhouse gas
10 emissions into the atmosphere, which has led to human made global warming, ocean
11 acidification, and all of the ramifications associated with the alteration of the atmosphere and
12 Earth's natural systems;

13 f. Defendants, and each of them, bear liability for reducing greenhouse gas
14 pollution into the atmosphere and altering the atmosphere and Earth's natural systems;

15 g. Rapid reduction of greenhouse gas emissions is required to preserve
16 Earth's atmosphere and natural systems;

17 h. Atmospheric concentrations of carbon dioxide higher than 350ppm, if
18 sustained beyond this century, are likely to cause global warming substantially greater than 1°C
19 above preindustrial temperatures, ocean acidification, massive deglaciation, and disintegration of
20 ice sheets, in addition to widespread harm to Earth's natural systems;

21 i. The United States government's duty as fiduciary is to prevent waste of
22 and to restore the trust asset by taking immediate measures consistent with the goal of restoring
23 global atmospheric carbon dioxide levels to less than 350 ppm this century;

24 j. In order to draw down carbon dioxide levels to achieve the scientific
25 prescription for meeting the fiduciary duty of preserving and protecting the atmosphere,
26 Defendants, and each of them, as trustees must collaboratively take action to: (i) enable global
27 fossil fuel CO₂ emissions to peak by 2012 and reduce global fossil fuel CO₂ emissions by at least
28 6% per year through at least 2050; and (ii) cease deforestation and reforest degraded forest lands

1 and improve soil conditions on agricultural lands that will sequester an additional 100 gigatons of
2 carbon this century; and

3 k. To support effective global collaboration to preserve and protect the
4 atmosphere and Earth's natural systems, the United States government has an obligation, as
5 agreed under the UNFCCC, to take action pursuant to its common but differentiated
6 responsibility and respective capabilities. Based on this principle, the United States government
7 must both reduce its own emissions and provide financial and technological assistance to
8 developing countries to support them in reducing their own emissions, at an aggregate rate
9 consistent with a rate of global emissions decline of 6% per year.

10 2. Issue an injunction:

11 a. Requiring Defendants, and each of them, take action consistent with the
12 United States government's equitable share of the global effort, corresponding to its share of the
13 responsibility for causing an increase in greenhouse gas concentrations and its financial and
14 technological capability to reduce global emissions, and thereby enable global CO₂ emissions to
15 peak by December 2012 and decline by at least 6% a year thereafter;

16 b. Requiring that Defendants, and each of them, take all necessary actions to
17 reduce CO₂ emissions in the United States by at least 6% per year beginning in 2013;

18 c. Requiring that by December 31, 2011, Defendants, and each of them,
19 prepare an annual GHG accounting or inventory of all GHG emissions originated by the United
20 States and its citizens and corporations and submit it for approval by this Court;

21 d. Requiring that by December 31, 2011, Defendants, and each of them,
22 prepare an annual carbon budget consistent with the reductions in 2(a) and (b) above and submit
23 it for approval by this Court; and

24 e. Requiring that by December 31, 2011, Defendants, and each of them,
25 prepare a climate recovery plan, consistent with the best available science and calibrated to
26 achieve the requirements imposed by 2(a) and (b) and submit it to this Court for approval.

27 3. Grant such other attorneys' fees, expert fees, costs of suit, and interest as allowed
28 by law.

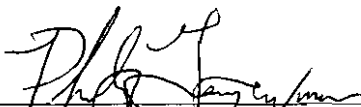
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4. Grant such other and further relief as the Court deems just and proper.

5. Retain jurisdiction over this action for purposes of enforcing and effectuating this Court's order.

Dated: May 04 , 2011

COTCHETT, PITRE & MCCARTHY, LLP

By: 
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