

**STATE OF NEW MEXICO
BEFORE THE ENVIRONMENTAL IMPROVEMENT BOARD**

IN THE MATTER OF PROPOSED NEW REGULATION,
20.2.351 NMAC – *Greenhouse Gas Reduction Program*

No. EIB 16- _____ (R)

PETITION FOR REGULATORY CHANGE

Pursuant to 20.1.1.300 NMAC, Youth Petitioners Alicia S., A.M, Anahi, Arael, Asha, Ayana, Barbara, Celia, Cherry, Kimberly, Josue D., Marina, Michelle, Micky, Mireya, Natalie, Reese, Rowan, Ruby L., Ruby S., Samuel, Sierra, Sky, Theo, Tilcara, Van, Veroaylin, Zubin, and WildEarth Guardians (collectively “Petitioners”) hereby petition the Environmental Improvement Board (“EIB”) to adopt 20.2.351 NMAC — *Greenhouse Gas Reduction Program* — a rule that “prevent[s] or abate[s]” greenhouse gas pollution, establishes air quality standards for carbon dioxide, and adopts a plan “for the regulation, control, prevention or abatement of air pollution” in the state of New Mexico.¹ The proposed rule also fulfills the New Mexico Environment Department’s (“NMED’s”) statutory, public trust, and constitutional obligation to:

ensure an environment that in the greatest possible measure will confer optimum health, safety, comfort and economic and social well-being on its inhabitants; will protect this generation as well as those yet unborn from health threats posed by the environment; and will maximize the economic and cultural benefits of a healthy people.²

The proposed regulation and Statement of Reasons are attached.

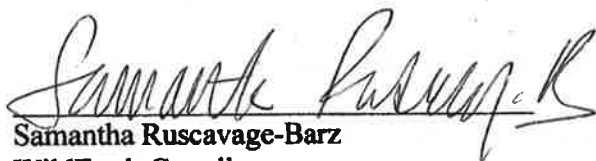
Petitioners respectfully request that the EIB consider the petition at its next monthly meeting on July 28, 2017. Petitioners further request that the EIB set a public hearing to consider evidence in support of the petition, including testimony from the Youth Petitioners, and, at the

¹ N.M. STAT. ANN. 1978 § 74-2-5(B)(1), (2).

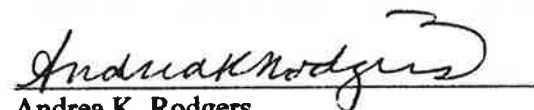
² N.M. STAT. ANN. 1978 § 74-1-2.

conclusion of the public hearing, that it adopt the new regulation as requested herein. The estimated duration of the hearing is three to five days. This regulatory action is needed to safeguard the fundamental, constitutional rights of present and future generations of New Mexicans that are being harmed by climate change.

Respectfully submitted on this 27th day of June, 2017.



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STATEMENT OF REASONS

Petitioners submit this Statement of Reasons in support of a proposed regulation 20.2.351 NMAC – *Greenhouse Gas Reduction Program*.

I. Statutory Authority

1. The Environmental Improvement Board (“EIB”) is “the agency charged by the Legislature with protecting New Mexico’s air and other natural resources.” *Sanders-Reed v. Martinez*, 350 P.3d 1221, 1223 (N.M. Ct. App. 2015). The New Mexico Environment Department (“NMED”) enforces the rules, regulations and orders of the EIB and was created:

to ensure an environment that in the greatest possible measure will confer optimum health, safety, comfort and economic and social well-being on its inhabitants; will protect this generation as well as those yet unborn from health threats posed by the environment; and will maximize the economic and cultural benefits of a healthy people.

N.M. STAT. ANN. § 74-1-2.

2. The EIB is directed and authorized to adopt the proposed regulation pursuant to the Air Quality Control Act (“AQCA”) and the New Mexico Environmental Improvement Act. N.M. STAT. ANN. §§ 74-1–74-2. The EIB has a mandatory duty to adopt regulations to “prevent or abate air pollution,” including the prescription of air standards “within the geographic area of [its] jurisdiction.” N.M. STAT. ANN. § 74-2-5(B)(1); N.M. STAT. ANN. § 74-2-5(A); *see also* N.M. STAT. ANN. § 74-1-8(A) (“the board shall promulgate rules and standards in the following areas . . . air quality management as provided in the Air Quality Control Act.”).

3. The EIB also has a mandatory duty to “adopt a plan for the regulation, control, prevention or abatement of air pollution, recognizing the differences, needs, requirements and conditions within the geographic area of the environmental improvement board’s jurisdiction or the local board’s jurisdiction or any part thereof.” N.M. STAT. ANN. § 74-2-5(B)(2).

4. Greenhouse gases are “air contaminant[s]” within the meaning of the AQCA, which defines an “air contaminant” as “a substance, including any particulate matter, fly ash, dust, fumes, gas, mist, smoke, vapor, micro-organisms, radioactive material, any combination thereof or any decay or reaction product thereof.” N.M. STAT. ANN. § 74-2-2(A). This definition includes greenhouse gases, which the U.S. Environmental Protection Agency (“EPA”) has defined as including carbon dioxide, methane, nitrous oxides, perfluorocarbons, hydrofluorocarbons, and sulfur hexafluoride. *See* Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009).

II. Petitioners’ Interests

5. As identified below, all of the individual Petitioners are young New Mexicans whose interests are adversely affected by the State’s failure to have any type of greenhouse gas reduction program in place to address climate change and its detrimental impacts and by the State’s allowance of dangerous levels of greenhouse gas emissions. As discussed in the Statement of Reasons, climate science demonstrating the need for significant reductions in greenhouse gas emissions from sources within the state is irrefutable. Thus, Petitioners submit this petition on behalf of themselves and present and future generations of New Mexicans.

6. Petitioner **Alicia S.** is a 20-year-old naturalized U.S. Citizen and a resident of Santa Fe, New Mexico. She been personally harmed multiple times due to the radical changes occurring as a result of climate change. Alicia is a student at Skidmore College, in Saratoga Springs, and I am

planning to study International Affairs and Latin American and Hispanic studies. She was a part of Earth Care's Youth Allies and participated in an Americorps project. During high school she was the president of the Sustainability Club. Throughout her young life she has done a significant amount of environmental work to help fight climate change and spread awareness about the need to take action to reduce greenhouse gas emissions and find sustainable forms of energy. For her last two years of high school she went to the United World College of the Adriatic, where she attended a sustainability conference in the Fall of 2015 in Salem, Germany. Many schools from around Europe and other countries as well as other organizations attended the conference in Germany to find sustainable ways and alternatives to make our schools greener. During her sophomore year of high school, she participated in the citywide plastic bag ban. She believes that there is more we can do to make New Mexico more sustainable. For starters we can use the relentless desert sun to power solar energy. Alicia believes that protesting and publically expressing your views is an essential part of protecting our environment, especially for young people, who will be the most affected group of global climate change. She also believes that more needs to be done in order to address climate change and reduce our greenhouse gas emissions. She is aware that New Mexico has been affected by climate change during her lifetime. For example, snow is now falling until April and May, affecting our agriculture and plant life. Climate change has also caused more extreme weather events and New Mexico is now experiencing the devastating effects of desertification. Alicia knows climate change is a global threat and she is determined to ensure her future and the future of upcoming generations by actively searching for solutions. Due to the recent political actions of our country she now fears that things will get much worse before they start to get better, which is why she urges the EIB to take action and stand with the young people of this beautiful state. She is afraid

that she will look back on this time and will know that her country is and will be on the wrong side of history, unless we unite to take action. Despite all of this, she has a deep-rooted faith that as a society we will begin working collectively to find solutions and remedy some of the damage already done. She hopes that in the future climate change will not be debated and will be a thing of history.

7. Petitioner **A.M.**, by and through her natural mother and guardian B.M., is a 6-year-old U.S. Citizen and resident of Santa Fe, NM. A.M. has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. A.M. is a student at Camino Real Academy and is concerned about the environment. At her school she learned about the impacts of releasing carbon dioxide and other greenhouse gases into the atmosphere when we drive our cars, turn on our lights, run our appliances, and heat our houses using fossil fuel energy. A.M. is concerned because the climate is changing and the animals are dying. She is concerned that many of her favorite animals will go extinct because they cannot change as quick as the earth is changing. Even animals like bees that might seem small help plants make food for us to eat. We should help the animals. A.M. sees the impact in New Mexico is that it is getting warmer and there's not going to be any more snow. A.M. knows that snow is where a lot of our water comes from and that all plants and animals need water to live and if we don't have enough water we won't have enough food. A.M. is sad because the animals are dying. She feels like crying because we are making a bad earth. She hopes grown-ups in charge will do something before it is too late.

8. Petitioner **Anahi M.**, by and through her natural guardian and mother Emma P., is a 9 year-old first generation U.S. Citizen and resident of Santa Fe, New Mexico. Anahi is in 4th grade and has been and will be personally harmed due to the many changes occurring as a result

of climate change in New Mexico. Anahi attends a Title 1 public school in Santa Fe. Anahi is a member of The Global Warming Express, a By Kids/For Kids Program for children run by the 501(c)(3) organization, The Global Warming Express. The Program is powered by Kids, mentored by Grownups, and is designed to weave science, climate science, sustainable solutions, public speaking, writing, visual arts and performance together to elevate the voice of youth in New Mexico. Anahi performed a Global Warming Express song and dance while visiting the New Mexico State Legislature as part of their work on climate change. Anahi knows that climate change is a real threat to the planet and is determined to actively work towards the solutions. She has expressed that she wants the climate not to change, so that animals don't die and there are less problems and has spoken publicly at the March for Science in Santa Fe. She wants the mountains to continue to be green and that there can be more jobs in her community. She is frustrated because her state is doing little to nothing to prevent or prepare for these issues that are already harming Anahi and will only get worse if climate change is not addressed.

9. Petitioner **Arael**, by and through his natural guardian, Emma P., is a 9 year-old resident of Santa Fe, New Mexico. Arael has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Arael attends a Title 1 public school in Santa Fe. Arael is a member of The Global Warming Express, a By Kids/For Kids Program for children run by the 501(c)(3) organization, The Global Warming Express. The Program is powered by Kids, mentored by Grownups, and is designed to weave science, climate science, sustainable solutions, public speaking, writing, visual arts and performance together to elevate the voice of youth in New Mexico. Arael performed a Global Warming Express song and dance while visiting the New Mexico State Legislature as part of his work on climate change. Arael knows that climate change is a real threat to the planet and is determined to actively work

towards the solutions. He has expressed that we have to protect New Mexico and has spoken publicly at the March for Science in Santa Fe. He believes that we need to protect all of the wildlife such as wolves and deer. He wants to protect forest and open spaces. He is frustrated because his state is doing little to nothing to prevent or prepare for these issues that are already harming Arael and will only get worse if climate change is not addressed.

10. Petitioner **Asha B.**, by and through his natural guardian and mother Denise Bellow, is a 10-year-old U.S. Citizen and resident of Santa Fe, New Mexico. Asha has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Asha is a member of Global Warming Express, a By Kids/For Kids Program for kids ages 8–12 run by the 501(c)(3) organization, The Global Warming Express. The Program is powered by Kids, mentored by Grownups, and is designed to weave science, climate science, sustainable solutions, public speaking, writing, visual arts and performance together to elevate the voice of youth in New Mexico. He enjoys playing outside and his favorite activities include swinging, climbing and jumping. He loves to express himself through art and singing. As part of The Global Warming Express, Asha has spoken publicly at the Santa Fe Mayor's office about the importance of recycling, gave a speech at the March for Science, and has also given a speech at the New Mexico State Legislature. Asha is a fourth grade student and lives in an adobe house in Santa Fe, New Mexico, with his family. Asha enjoys living in the nice, quiet, small town of Santa Fe and is very worried about air pollution. Asha and his family are aware that climate change is already diminishing the already scarce water resources in New Mexico, which will make drought conditions more significant than they are today. Asha and his family love to go hiking, especially to enjoy the big waterfall. On his hikes, Asha loves to see his favorite animals, chipmunks. Asha knows climate change is a real threat to the planet and is determined to actively

work towards the solutions, which is why he is a member of Global Warming Express. He is frustrated because his state is doing little to nothing to prevent or prepare for these issues that are already harming Asha and will only get worse if climate change is not addressed. Asha wants all grownups and politicians to know that we must build our future and not tear it down. He has publicly said, “climate change is not cool and we need to do something about it, and not just for right now, but for the future!”

11. Petitioner **Ayana H.**, by and through her natural guardian and mother Christina Hoberg, is a 5-year-old U.S. Citizen and resident of Albuquerque, New Mexico. Ayana has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. She enjoys playing outside and her favorite activities include swinging, climbing and jumping. She loves to express herself through art and singing. Ayana lives on a property in Albuquerque, New Mexico, with her family, where they grow a number of different kinds of fruits and vegetables. The family grows about 10% of the food resources they consume. Ayana’s favorite plant to grow is chrysanthemums and she is most excited to harvest the apricots that her family grows. Ayana and her family are aware that as the climate continues to change, they will need to adapt the food resources and seeds that they grow. Ayana and her family are also aware that climate change is also diminishing the already scarce water resources in New Mexico, which will make farming much more difficult than it already is. Ayana’s mother is a graduate of Las Huertas Farmer Training Program and is developing the Firewheel Women’s Collective at the Rio Grande Community Farm. The purpose of this work is to work with women and teach others, including Ayana, how to grow sustainable food and foster resiliency, learning, and a deeper community bond. Ayana frequently goes with her mother to farm with other the women and their children and enjoys spending time on the farm immensely. Ayana knows climate

change is a real threat to the planet and is determined to actively working towards the solutions.

Ayana has gotten up on stage to communicate to the public, “let’s all take care of the Earth!” She is frustrated because her state is doing little to nothing to prevent or prepare for these issues that are already harming Ayana and will only get worse if climate change is not addressed.

12. Petitioner **Barbara L.**, by and through her natural guardian Rebecca Leppala, is a 14-year-old resident of Albuquerque, New Mexico. Barbara has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. As a student, Barbara participates in speech and debate and plays the flute, tenor saxophone, and percussion in band. She loves reading and learning about art and science. She hopes one day to travel the world, and to hear the stories that go unheard from the people. She was named after Barbara Jordan, a mover and a shaker who always had the interests of those most vulnerable at the forefront of everything she fought for. She is one of her inspirations, and believes that if she were still alive, she would believe in making the world a better place by making the world a less polluted place. Barbara is aware of climate change and has seen climate change impacts in New Mexico during her lifetime. She believes that we need to be part of the solution to climate change because those who will face the consequences of our failure to act will be the most vulnerable in our communities. These will be those impoverished, those without a voice, and even the wildlife. Those who will be struck by the force of our inaction will be our children, and their children, and so forth. Barbara believes that we owe it to ourselves, and everyone and everything that will follow us to save our climate while we have the chance.

13. Petitioner Ciela S., by and through her natural guardian Esha C., is a 10-year-old resident of Santa Fe, New Mexico. Ciela has been and will be personally harmed by the changes occurring as a result of climate change in New Mexico. Ciela is a member of The Global

Warming Express, A By Kids/For Kids Program for kids ages 8-12 run by the 501(c)(3) organization, The Global Warming Express. The Program is powered by Kids, mentored by Grownups, and is designed to weave science, climate science, sustainable solutions, public speaking, writing, visual arts and performance together to elevate the voice of youth in New Mexico. Ciela enjoys playing outside in the river, climbing trees, hiking, biking, running in nature and doing gymnastics. Ciela has spoken and performed at Renewable Energy Day at the New Mexico State Capitol, the Santa Fe City Council hearings to ban plastic bags and the EPA hearings on the regulation of coal emissions in Denver, Colorado. She can already feel the weather getting hotter in the summer, which makes the sand hot under her feet. She has also observed that the fruit trees rarely bear fruit due to the late, erratic frosts. She is aware that a lot of animals are dying all over the world due to human activities and subsequent emissions and wants to protect the lives of animals and future generations. She is frustrated that the state is not doing more to transition to wind and solar power.

14. Petitioner **Cherry D.**, by and through her natural guardian and mother Stephanie Dzur, is a 17-year-old U.S. Citizen and resident of Albuquerque, New Mexico. Cherry has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Cherry is a student at Eldorado High School and is passionate about the environment and has interned with the Sierra Club and participated in a youth activist training camp during the summer. Cherry has done a significant amount of environmental work to fight climate change and educate others about the need to take action now to reduce greenhouse gas emissions. She has traveled to Farmington, New Mexico and was the only young person to testify on the importance of adopting a rule to curb emissions of methane, a highly potent greenhouse gas, that is leaked from oil and gas operations. She has also testified before the Albuquerque City Council

in support of an initiative for the city to obtain 25% of its electricity from solar power and is thrilled that the initiative passed, but she knows that it is not nearly enough. New Mexico is such a sunny state, much more power should be generated by solar energy. Cherry believes that protests and expressing your views publicly is an important part of protecting the environment, especially for young people who are going to be most affected by climate change. But Cherry also believes that more needs to be done to address climate change, especially reducing greenhouse gas emissions. Cherry is aware of climate change and has seen climate change impacts in New Mexico during her lifetime. When she was younger, New Mexico used to get a lot more snow in the mountains. Climate change has caused more extreme weather events and the state is now getting hotter and drier. Cherry knows climate change is a real threat to the planet and is determined to actively work towards solutions. Cherry gets a sinking feeling about society now being in the calm before the storm, when climate change impacts will get more severe in the future. Cherry is afraid she will look back when she is older and think about how wonderful her childhood was before climate change gets out of hand. She is frustrated because her state is doing little to nothing to prevent or prepare for these issues that are already harming Cherry and will only get worse if climate change is not addressed. Cherry remains optimistic that the state will make the changes needed to make in order to protect her future from the perils of climate change.

15. Petitioner **Kimberly B.** is an 18 year-old Native American girl from Mescalero, New Mexico. Kimberly has lived on the Mescalero Apache Reservation her entire life and has noticed the changing climate and environment. Kimberly has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Kimberly states that Native Americans are the original environmentalists and nature lovers. Her ancestors were

hunter gathers, which means that they hunted animals and gathered plants and herbs. Even in more modern times herself and most people in her tribe are still hunter gathers. For as long as she has known, her people have hunted animals such as deer, elk, turkey, etc. for many traditions and ancient ceremonies. There are often times when people pick natural herbs and plants to use in rituals. But due to global warming and the change in the weather these traditions of her tribe cannot fully be held to the previous standards. In years past there would be plenty of downfall from snow and rain but, in more recent years, the amount of precipitation has decreased. The lack of precipitation has affected her tribe. The plants that they collect and use are not growing as plentiful and abundant as needed and used in previous times. Water nourishes the plants and if they cannot get the vegetation that they need then neither can the animals in the forest. If the animals can't sustain the food/nourishment that they need to survive then they will not grow up strong or live long. These are some of the main reasons that Kimberly has long been interested in climate change and global warming that is plaguing the Earth. One main action that she has done to help reduce pollution is to have her family recycle aluminum, paper, and plastic. She also plans to take more action within her community by making a proposal to either purchase recycling bins or create a system of a community recycling center. She hopes to get more people involved in several different settings. Another place that she has tried to impact is her High School. She has joined a club called the Green Team which is an environmental club. In the group they have tried to make the campus a more eco-friendly place by starting a composting system and having recycling bins in all classrooms. Kimberly wants to be a part of this petition for rulemaking because it would help to improve the climate change in New Mexico or anywhere else.

16. Petitioner **Josue D.** is a 20-year-old resident of Santa Fe, New Mexico. Josue has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Josue is a student at St. Edward's University and is passionate about the environment and has interned with Earth Care and volunteered for New Energy Economy. Josue has done a significant amount of environmental work to fight climate change and educate others about the need to take action now to reduce greenhouse gas emissions. He has represented New Energy Economy at Climate summits to present what Santa Fe is doing to reduce the effects of carbon emission. New Mexico is such a sunny state, much more power should be generated by solar energy. Josue believes that protests and expressing your views publicly is an important part of protecting the environment, especially for young people who are going to be most affected by climate change. But Josue also believes that more needs to be done by the state to address climate change, especially reducing greenhouse gas emissions. Josue is aware of climate change and has seen climate change impacts in New Mexico during his lifetime. When he was younger, the city of Santa Fe received more snow. Climate change has caused more extreme weather events and the state is now getting hotter and drier. Josue knows climate change is a real threat to the planet and is determined to actively work towards solutions. Josue fears he will look back when he is older and think about how wonderful his childhood was before climate change gets out of hand. He is frustrated because his state is doing little to nothing to prevent or prepare for these issues that are already harming and will only get worse if climate change is not addressed. Josue remains optimistic that the state will make the changes we need to make in order to protect his future from the perils of climate change.

17. Petitioner **Marina W.**, by and through her natural guardian and mother Genie Stevens, is a 14-year-old U.S. Citizen and resident of Santa Fe, New Mexico. Marina has been and will be

personally harmed due to the many changes occurring as a result of climate change in New Mexico. Marina is the founder of the Global Warming Express, a By Kids/For Kids Program for children run by the 501(c)(3) organization, The Global Warming Express. The Program is powered by Kids, mentored by Grownups, and is designed to weave science, climate science, sustainable solutions, public speaking, writing, visual arts and performance together to elevate the voice of youth in New Mexico. When she was 10, Marina wrote a book, *The Global Warming Express*, that is being published and released in August 2017. Marina and her family are aware that climate change is already affecting the state of New Mexico and wants to do whatever she can to protect the animals and natural resources of New Mexico. Marina was a finalist for Hasbro's Generation On Community Action Hero Award and has given a TEDx talk about her work to combat climate change. She has said, "I am here to speak for all children, to DEMAND a livable future." Marina has been interested in protecting the Earth since she was in the first grade. She sees climate change as an emergency and that the most important issue on earth right now is to slow down global warming. She enjoys and looks forward to teaching young people about the things she didn't know about climate change when she was young. Her new book, *The Global Warming Express*, is based on her hopes and dreams when she wrote it as a fourth grade student. It gives the perspective that all of the different animals that are being put in peril from climate change are crying out for help. It describes animals such as those that live on ice sheets that are melting, near the tar sands where land is being destroyed for fossil fuel extraction, or through an oil spill in the Gulf of New Mexico- all on a journey on a magical train, called The Global Warming Express, to reach Washington D. C. The goal of the book was to get the message to President Obama that we need to take action to fight climate change. The book actually was given to the President. Through her work, she has realized the importance of youth

expressing their opinions. Marina knows climate change is a real threat to the planet and is determined to actively working towards the solutions. She is frustrated because her state is doing little to nothing to prevent or prepare for these issues that are already harming Marina and will only get worse if climate change is not addressed.

18. Petitioner **Michelle**, by and through her natural guardian, Yazmin C., is an 11-year-old resident of Santa Fe, New Mexico. Michelle has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Michelle attends a Title 1 public school in Santa Fe. Michelle is a member of The Global Warming Express, a By Kids/For Kids Program for children run by the 501(c)(3) organization, The Global Warming Express. The Program is powered by Kids, mentored by Grownups, and is designed to weave science, climate science, sustainable solutions, public speaking, writing, visual arts and performance together to elevate the voice of youth in New Mexico. Michelle knows that climate change is a real threat to the planet and is determined to actively work towards the solutions. She has expressed that as an 11-year-old, she is thinking about how her future will be. She is concerned that global warming will affect her future and the future of other kids as well. She believes that if we don't act to stop global warming, the sea levels will rise and it will make some islands where people and animals live disappear. She is frustrated because her state is doing little to nothing to prevent or prepare for these issues that are already harming Michelle and will only get worse if climate change is not addressed. Michelle wants to start preventing global warming for a better life in the future.

19. Petitioner **Micky D.**, by and through his natural guardian and mother Stephanie Dzur, is a 15-year-old U.S. Citizen and resident of Albuquerque, New Mexico. Micky will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Micky and his family are aware that climate change is already affecting the state of New Mexico and

wants to do whatever he can to protect the natural resources of New Mexico. Micky has spoken to his science class about climate change and was really disappointed to learn that many of his fellow students weren't aware of climate change or had been told that it is not happening. He finds it frustrating that many of his fellow students aren't aware of what the science says about the urgent need to address climate change. Micky believes that as a young person, he and his generation are the future, and it is important to do something stop climate change. At times he feels somewhat helpless about dealing with climate change since it is such a big problem, but wants to do everything that he can to solve the problem. Micky is also frustrated that people and big corporations abuse the planet for their own benefit. Micky enjoys the outdoors and likes to go camping, and ride his bike. He has protested the burning of coal for energy, attended meetings to support the City of Albuquerque's proposal to get 25% of their electricity from solar power, and has gone to New Mexico's 350.org meetings to hear lecturers speak about climate change. Micky has a great admiration for the beauty of the natural world. Micky knows climate change is a real threat to the planet and is determined to actively work towards the solutions. He is frustrated because his state is doing little to nothing to prevent or prepare for these climate changes and its consequences will be much worse if it is not addressed.

20. Petitioner **Mireya M.**, by and through her natural guardian and mother, Angela Gallegos-Macias, is a 12-year-old resident of Albuquerque, New Mexico. Mireya has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Mireya is a seventh grade student who enjoys math, science and history. She is a member of her school's Environmental Club, Community Service Club and Future City Club. As part of her work with the Environmental Club, Mireya has planted seeds and few edible plants. They were recently able to harvest what they grew as part of Harvest Day. Mireya enjoys reading

and has been playing guitar, first acoustic and now classical, for the last three years. She used to play soccer but is going to start playing basketball. Mireya believes that climate change is a threat to the environment because the planet is gradually getting warmer every year. She has learned that climate change is negatively affecting animals and wildlife and is causing resource scarcity. Mireya knows that New Mexico is a desert environment and reduced water could have severe ramifications for the state. Mireya believes that we need to protect both ourselves and Mother Nature, and that we can't have one without the other. Mireya wants to become a lawyer one day and help to make a cleaner, healthier, and better environment for the future. Mireya has realized the importance of young people expressing their opinions. Mireya knows climate change is a real threat to the planet and is determined to actively work towards the solutions. She is frustrated because her state is doing little to nothing to prevent or prepare for these issues that are already harming Mireya and will only get worse if climate change is not addressed.

21. Petitioner **Natalie D.**, by and through her natural guardians, Bonnie Gray-Dees and Mark Dees, is a 17-year-old U.S. Citizen and resident of Corrales, New Mexico. Natalie has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Natalie and her family are aware that climate change is already affecting the state of New Mexico and wants to do whatever she can to protect the animals and natural resources of New Mexico. As a student at Bosque School, Natalie took a Wildlife Conservation Class and was inspired by her teacher who was very passionate about climate change. As a student in that class, Natalie has researched and learned about a number of different environmental issues. Natalie believes that climate change is the most important environmental issue facing the Nation today. Natalie has noticed how the climate has been changing in New Mexico, with the weather getting hotter much sooner and faster than when she was younger. Her family grows fruit on

their property and have been unable to harvest apricots, apples and cherries during some years because of the changing climate. Natalie loves to play sports and hike. Through her education, she has realized the importance of young people expressing their opinions on issues that will affect their future such as climate change. Natalie knows climate change is a real threat to the planet and is determined to actively work towards the solutions. She is frustrated by how her government has failed to address the climate change crisis and by how her state is doing little to nothing to prevent or prepare for these issues that are already harming Natalie and will only get worse if climate change is not addressed.

22. Petitioner **Mateo Reese M.**, by and through his natural guardian and mother Teresa McCurough, is a 11-year-old U.S. Citizen and resident of Santa Fe, New Mexico. Reese has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Reese is a member of Global Warming Express, a By Kids/For Kids Program for kids ages 8–12 run by the 501(c)(3) organization, The Global Warming Express. The Program is powered by Kids, mentored by Grownups, and is designed to weave science, climate science, sustainable solutions, public speaking, writing, visual arts and performance together to elevate the voice of youth in New Mexico. He is also a member of the Boy Scouts and enjoys hiking, camping and river rafting throughout the state of New Mexico. Reese is a fifth grade student and lives in Santa Fe, New Mexico, with his family. Reese has been interested in climate change ever since he first learned of the problem. He doesn't like climate change one bit because it is making animals go extinct. His favorite animal is the road runner. Reese does a lot to protect the environment, including working on restoration projects to replace trees and plants that have been harmed by humans. As part of his work with the Global Warming Express, he has visited the New Mexico State Legislature and has communicated his desire to get the help of the

government to build a better future for his generation. He wants to engage in activities that make a better state, then a better country and then a better world. He wants to see more renewable energy resources in New Mexico, like wind farms and solar arrays. Reese knows climate change is a real threat to the planet and is determined to actively working towards the solutions, which is why he is a member of Global Warming Express. He is frustrated because his state is doing little to nothing to prevent or prepare for these issues that are already harming Reese and will only get worse if climate change is not addressed.

23. Petitioner **Rowan Mateo S-G**, by and through his natural guardian and mother Bianca Sopoci-Belknap, just turned 5-years-old on June 12th, is a U.S. Citizen and resident of Montezuma, New Mexico. Rowan has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Rowan is a student at Happy Faces Daycare in Montezuma, NM but also spends much of his days playing in the Rio Gallinas River, which runs near his house, which is on a farm. He loves the outdoors and is learning to identify the plants and birds that are his neighbors. Rowan has participated in civic action for the environment since he was a baby. He travelled to Standing Rock to deliver tents, stoves, and firewood with students from the United World College and the Institute for American Indian Art when he was four. He has participated in renewable energy rallies, ecological service projects, and marches to ask the government to take responsible action to protect the environment and human health. Rowan speaks of defending “mama earth” often and often asks questions about fossil fuel which he names as coal, natural gas, and oil, and he asks why we continue to use things from deep in the ground when we know that they are harming our air, water, lands, and health when we take them from where they were put. Rowan is constantly saying we should be riding our bikes instead of driving in cars and that we need to turn off lights and appliances when

we are not using them. Rowan is coming to understand that the big choices of what kind of energy we use and how our communities are designed are made by the government that is supposed to represent our collective interests – not private individuals. He says that the government should listen to him, his friends, and lots of grown-ups who don't want to hurt mama earth everyday and who want us to get electricity from the sun and wind which mama earth gave us – not coal and oil which mama earth buried deep in the ground. Rowan knows climate change is real, and that humans are part of the reason that waters are drying up and icecaps are melting. Rowan states that if the world dries up, and this state is kind of drying up really fast, – then the plants won't grow and the animals and the humans will suffer and die because they won't have any food. All plants need water and all animals and humans need water too. Rowan says adults in the government should do something because if they don't everything could die. He says we should stop using fossil fuels and get electricity from father sun instead. Rowan says he wants to be able to grow up and play in the river when his babies are born but that he is not concerned for any one animal more than another or any one person more than another. He says he wants the earth to be good and people to be good for ALL animals and ALL people, even bad guys. He says he wants to protect the world for everybody in the WHOLE wide world.

24. Petitioner **Ruby L.** is an 18-year-old U.S. Citizen and resident of Santa Fe, New Mexico. Ruby has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Ruby is an environmental educator who cares deeply about maintaining the usability of the land for herself and her students. She has previously been an outstanding student activist in the Academy for Sustainable Education, the precursor to Early College Opportunities High School (ECO), as well as interning with New Energy Economy. She has spoken at city meetings on the necessity of protecting the planet for the next generations, did

work to start a composting program at Santa Fe High School, and has attended FFA Conferences, Agriculture Appreciation Day at the New Mexico State Legislature, and spoke with local farmers on how climate change is making agriculture a less and less secure way of making a living, not to mention the implications of very possible large scale food shortages in the near future. Ruby believes in factual, non-partisan media and the ability to contribute to that media. She has published an op-ed in the Santa Fe New Mexican and encourages other young people to share their opinions on current environmental issues in a similar manner. She feels it is extremely important for there to be a platform for young people, specifically minors, to be able to influence the legislation and issues in their community since they are unable to vote. Ruby has experienced the reality of climate change affecting local food sources. She is from the traditional farming community of Española and has seen the harvests dwindling year after year. There is not enough water in the arroyos to sustain even subsistence farming, creating a food desert in a small town that was once a breadbasket of New Mexico. Ruby acknowledges climate change as a serious and present threat to our future, especially in the desert climate of New Mexico, where the Rio Grande no longer makes it to the ocean. She is afraid for her own future as an agricultural worker and worries constantly about the kind of future her students and her future children might have in a land ravaged by drought and other extreme weather. She is endlessly frustrated with the lack of action being taken in our state to curb the effects of climate change and fears that it will make our state uninhabitable within her lifetime. Ruby hopes that the State will take the necessary actions to protect our state and our planet before it is too late.

25. Petitioner **Ruby S.**, by and through her natural guardian Kate Sallah, is a 9-year-old resident of Santa Fe, New Mexico who attends Acequia Madre Elementary School. Ruby has been and will be personally harmed due to the many changes occurring as a result of climate

change in New Mexico. For the last three years, Ruby has been a member of The Global Warming Express, a By Kids/For Kids Program for kids ages 8–12 run by the 501(c)(3) organization, The Global Warming Express. The Program is powered by Kids, mentored by Grownups, and is designed to weave science, climate science, sustainable solutions, public speaking, writing, visual arts and performance together to elevate the voice of youth in New Mexico. The Global Warming Express works with students to teach them about global climate change. Ruby attends weekly meetings and has learned about greenhouse gases like methane and carbon dioxide. She has also learned about what a carbon footprint is and how she can take steps to reduce her own carbon footprint. Ruby wrote a speech for Earth Day in 2017, and delivered it at the New Mexico State Legislature, about the need for more solar and wind farms. She has also met with the Mayor of Santa Fe this Spring to discuss glass recycling and how it affects the Earth. In 2016 Ruby spoke at the ribbon cutting ceremony for the school's new solar panels. City leaders and supporters listened to the students, including Ruby, and members of The Global Warming Express sang a song that they created. Ruby does a lot to protect the environment, and believes strongly and is very passionate that through the work she does with The Global Warming Express she can affect change in our society and encourage other people to reduce their carbon footprints, reduce greenhouse gas emissions, and use renewable energy. Ruby and her family have installed their own 10Kw solar energy system on their property in Santa Fe. This system provides all of the energy Ruby's entire family needs for their home. Every month she looks at the reports and is always impressed by how much solar energy their system generates and the amount of carbon her family is offsetting. Her Dad has also installed a 480-watt solar system on their pop-up camper so that they can be off the grid when they go camping. Ruby knows climate change is a real threat to the planet and is determined to actively working towards

the solutions, which is why she is a member of The Global Warming Express. She is frustrated because her state is doing little to nothing to prevent or prepare for these issues that are already harming Ruby and will only get worse if climate change is not addressed.

26. Petitioner **Samuel A.**, by and through his natural guardian and mother Victoria Atencio, is 4-years-old U.S. Citizen and resident of Santo Domingo Pueblo, New Mexico. Samuel has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Samuel is a student at Santo Domingo Early Childhood Head start and is very passionate about the environment, being outdoors and learning about plants and animals. He has participated in many environmental entities including the Earth Care, National Park Service, March for Science, and a rally for the San Juan Power Station. With Earth Care he has learned about fossil fuels, climate change, renewable energies, oil spills, and mass extinctions. In the rallies that he has participated in, you will verbally hear his concerns about harming the Earth, the environment, extraction of non-renewable resources, and how the environment is being affected by climate change. Samuel, as young as he is, has showed compassion to fight for the preservation/conservation of the environment, help animals and plants, and take better care of our environment. Samuel believes that all living things matter, are all significant, and that we cannot hurt the earth or the things living on this planet. Earth is his favorite planet. You cannot live on Mars or Venus, Earth is his home. Samuel firmly discusses the difference between planets, their characteristics, and how you cannot find another planet like Earth. He questions how we will live, how animals will live, and how planets will grow. Samuel knows climate change is real, and that humans are part of the reason. He states that is either too hot or too cold – there's never just warm. He does not like either being too cold or too hot – and is sure that animals and plants do not either. If it is too hot or too cold animals and plants die. He feels that

we should stop making trash, stop driving cars, and stop polluting the water and air, so that all living beings can live together. Samuel is always optimistic that we can change. He states that all humans are animals as well. Just like plants grow and animals move, humans are just the same. Humans are always thinking and we should live with our hearts and not our mind. Be considerate of the life that we all share; it does not matter if we are animal or plants, all life matters on his favorite planet, Earth.

27. Petitioner **Sierra T.**, by and through her natural guardian, Sunny Tyrrell, is a 14-year-old Lakota Sioux from the Rosebud Sioux Reservation in South Dakota and New Mexican youth residing in Albuquerque, New Mexico whose personal wellbeing is, and will continue to be, threatened with injury from climate change. Sierra is preparing to begin high school at El Dorado High School. Sierra is very proud to be one of the students bringing this petition for rulemaking. She has been an activist since she was 5 years old when she met a woman who worked for the Sierra Club named Camilla during President Obama's 2008 campaign. Sierra serves as an intern for the Sierra Club in Albuquerque. Sierra is already aware of climate change and believes that fracking contributes greatly to the climate change problem. She has done some research about fracking and has learned that many fossil fuel companies are fracking on Native American reservation land, which is very upsetting to her as a Native American youth. Fracking causes earthquakes where they never used to be and needs to be stopped immediately. We do not need gas from fracking and we need to be using clean and renewable energy from solar and wind so that our air is clean and our planet can be healthy once again.

28. Petitioner **Sky M.**, by and through his natural guardians Tema Milstein and John Carr, is a 6-year old New Mexico youth residing in Albuquerque, New Mexico whose personal wellbeing is, and will continue to be, threatened with injury from climate change. Sky lives with

his mother, father and brother in Albuquerque, New Mexico and likes to express himself through making art, music, painting, singing and jumping on the trampoline. What Sky loves most about the Earth is that it gives us fruit. Sky is already aware of climate change and how it is causing more extreme weather like hotter summer in New Mexico. Sky and his family are concerned about their future, especially in a state like New Mexico which already has a desert landscape and limited water resources. Sky works hard to keep the environment of New Mexico clean and healthy and to communicate to people about the need to protect the Earth. Sky recognizes that he cannot stop climate change or the rising seas without action by his government.

29. Petitioner **Theo M.**, by and through his natural guardians Tema Milstein and John Carr, is a 9-year old New Mexican youth residing in Albuquerque, New Mexico whose personal wellbeing is, and will continue to be, threatened with injury from climate change. Theo lives with his mother, father and brother in Albuquerque, New Mexico and likes to play outside, play tag, mountain bike, skateboard, draw, read and play basketball with his friends. Theo is already aware of climate change and knows that it is caused by people burning fossil fuels which in turn heats up the planet. Theo is sad about how climate change will harm the many animals that he loves, including bears. Theo works hard to keep the environment of New Mexico clean and healthy and to communicate to people about the need to protect the Earth. Theo recognizes that he cannot stop climate change or the rising seas without action by his government.

30. Petitioner **Tilcara W.** is a 18-year-old native New Mexican who is a student at the University of New Mexico. Tilcara has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Tilcara is proud to be a fluent Spanish speaker and is passionate about engaging with others and with nature. During the summer she serves as a lifeguard at the community pool. Tilcara knows that climate change is a

real threat to the planet and is determined to collaborate with others to actively work towards the solutions. Tilcara says that there is only one Earth and it is our one and only home. She believes that everything that matters to us and everything that is dear to our hearts resides here on this planet. She feels that it is vital, now more than ever before, that we do everything in our power to ensure the existence of a clean and healthy environment for this generation, and the ones to come. She believes that the decisions and actions we make today will determine the reality of tomorrow. The human race lives and breathes because of the gifts this planet has provided, and we must show our gratitude by doing everything in our power to recuperate from the damages that have been done to the planet and preserve all that we have left.

31. Petitioner **Van L.**, by and through his natural guardian, Heather Karlson, is a 16-year-old who resides in Santa Fe, New Mexico. Van has been and will be personally harmed due to the many changes occurring as a result of climate change in New Mexico. Van is concerned about climate change because it is already affecting many people and communities around the world. Van loves to play soccer and is very interested in cars, airplanes, and other technology. He appreciates electric cars and their instantaneous torque from zero RPM. Like many car fans, he also has fun driving a manual transmission and loves the sound of an internal combustion engine. Because of this, he hopes that in the future a renewable liquid biofuel can be used to replace gasoline, so that he can still enjoy the sound of a free-revving V-8 engine without polluting the environment. Van believes solar power will produce the largest percentage of energy in the future. He also hopes that carbon sequestration can help reduce carbon dioxide in the atmosphere. Van thinks that technologies like solar power, electric cars, more efficient batteries, and better biofuels will move us away from fossil fuels while maintaining or improving people's quality of life and enjoyment of our current lifestyles. He pays close attention to politics, history,

and current events, and he feels strongly that the state of New Mexico and the country as a whole should take responsibility for reducing fossil fuel use. Van knows that climate change is a real threat to the planet and is determined to actively work towards the solutions.

32. Petitioner **Veroaylin C.**, by and through her natural guardian Veronica Ramos, is a 15 year-old sophomore at Academy for Technology and the Classics Charter School, and a resident of Santa Fe, New Mexico. Since a young age, climate change and other important environmental matters have jumped out to Veroaylin. She has participated in activities with Earth Care's Youth Allies such as rallies and trainings on the environment and helped with river restoration service projects at the Santa Fe river. Veroaylin has been influenced by this work which has expanded her knowledge on why environmental stewardship is so important and things we can do of all sizes to help stop environmental destruction to grow further. Veroaylin is very passionate to find ways to help herself— even in small every day ways by reducing her energy use. Yet Veroaylin recognizes that some issues are too big for individuals to control and address alone – climate change is one such issue. Veroaylin is fully aware that climate change is affecting our home. New Mexico is known for its bipolar weather, increasingly late frosts and dry summers due to changes in the climate hurt our agriculture. Of course, this isn't only happening in New Mexico, which is the more reason to act now. Veroaylin believes more needs to be done in order to reduce our greenhouse gas emissions. The City of Santa Fe is trying to take action but climate change needs to be dealt with at the state level and we youth are demanding that it be. We need to take action now because soon we the youth will be the ones inheriting this planet. As a young voice I don't want to be heard, I want to be listened to. I want my words to speak and reach decision-makers who have a responsibility to resolve the issue of and to fix the damages that have already been done. I am determined to fight for the future of others and my own future in

any possible ways I can. Our planet's life support systems are being stressed at an alarming rate, and I'm not ready to give up without doing the most I can for my home; my planet; our mother earth.

33. Petitioner **Zubin S.**, by and through his natural guardian Esha C., is a 12-year-old resident of Santa Fe, New Mexico. Zubin has been and will be personally harmed by the changes occurring as a result of climate change in New Mexico. Zubin is a member of The Global Warming Express, a by kids/for kids program for kids ages 8-12 run by the 501(c)(3) organization, The Global Warming Express. The program is powered by kids, mentored by grownups, and is designed to weave science, climate science, sustainable solutions, public speaking, writing, visual arts and performance together to elevate the voice of youth in New Mexico. Zubin has spoken and performed at Renewable Energy Day at the New Mexico State Capitol, the Santa Fe City Council hearings to ban plastic bags and the EPA hearings on the regulation of coal emissions in Denver, Colorado. Zubin enjoys playing outside in the river, hiking, biking, skiing and rafting. He is concerned that if emissions continue unabated, the world will be covered in the same smog that hangs over Beijing, China, Delhi, India and many other places. He has already observed the impacts of climate change on snowpack in the Santa Fe mountains and the consequential reduction in ski days. He feels that there is much more that can be done to reduce greenhouse gas emissions in New Mexico and would like lawmakers to keep future generations in mind as they shape the regulatory framework of our state.

34. Petitioner **WildEarth Guardians** is a non-profit conservation advocacy organization based in Santa Fe, New Mexico, with offices in Denver, Colorado, and other western cities. WildEarth Guardians has more than 200,000 members and supporting activists, many of whom live, work, and/or recreate within New Mexico. WildEarth Guardians and its members are

dedicated to protecting and restoring the wildlife, wild places, wild rivers, and health of the American West. Towards this end, WildEarth Guardians and its members seek to safeguard the climate by reducing greenhouse gas emissions and replacing fossil fuels with clean, renewable energy.

III. Basis and Need for Proposed Regulation³

Anthropogenic Climate Change is Occurring and is Threatening the Stability of the Climate

35. The United States Global Change Research Program⁴ has confirmed that global warming is occurring and adversely impacting the Earth's climate.⁵ The present rate of global heating is occurring as a result of human activities that release heat-trapping greenhouse gases and intensify the Earth's natural greenhouse effect at an accelerated rate, thereby changing Earth's climate.⁶ This abnormal climate change is unequivocally human-induced,⁷ is occurring now, and

³ Petitioners incorporate by reference into the official administrative record all materials cited to and relied upon in this Petition for Rulemaking. If the EIB requires copies of these materials, please inform Petitioners. Otherwise, because all materials cited are publically available, Petitioners assume that the materials are part of the official administrative record.

⁴ "The U.S. Global Change Research Program ("USGCRP") was established by Presidential Initiative in 1989 and mandated by Congress in the Global Change Research Act ("GCRA") of 1990 to . . . assist the Nation and the world to understand, assess, predict, and respond to human-induced and natural processes of global change." The organization's vision is to produce "[a] nation, globally engaged and guided by science, meeting the challenges of climate and global change." Their mission is "to build a knowledge base that informs human responses to climate and global change through coordinated and integrated Federal programs of research, education, communication, and decision support." U.S. GLOBAL CHANGE RESEARCH PROG., *About USGCRP*, <http://www.globalchange.gov/about>.

⁵ UNITED STATES GLOBAL CHANGE RESEARCH PROGRAM, *Climate Change Impacts in the United States: Third National Climate Assessment* 7 (2014), http://s3.amazonaws.com/nca2014/low/NCA3_Climate_Change_Impacts_in_the_United_States_LowRes.pdf [hereinafter USGCRP, *Climate Change Impacts*] ("Evidence for climate change abounds, from the top of the atmosphere to the depths of the oceans. . . . Evidence of climate change is also visible in the observed and measured changes in location and behavior of species and functioning of ecosystems. Taken together, this evidence tells an unambiguous story: the planet is warming, and over the last half century, this warming has been driven primarily by human activity.").

⁶ *Id.* ("Multiple lines of independent evidence confirm that human activities are the primary cause of the global warming of the past 50 years."); see also Deutsche Bank Climate Change Advisors, *Climate Change: Addressing the Major Skeptic Arguments* 9 (Sept. 2010), <https://www.uea.ac.uk/documents/3154295/7847337/Deutsche-Bank-CRU-report.pdf> (comparing IPCC's Fourth Assessment Report and USGCRP's 2010 assessment); INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE ("IPCC"), *IPCC Fifth Assessment Report: Climate Change 2013*, 1.1, 123 (2013) [hereinafter *AR5*], <http://www.ipcc.ch/report/ar5/wg1> ("Since the last assessment, the scientific knowledge gained through observations, theoretical analyses, and modeling studies has continued to increase and to strengthen further the evidence linking human activities to the ongoing climate change.").

⁷ USGCRP, *Climate Change Impacts*, *supra* note 2, at 7.

will continue to occur unless drastic measures are taken to curtail it.⁸ Climate change is damaging both natural and human systems, and, if unrestrained, will alter the planet's habitability.⁹

36. According to the U.S. Environmental Protection Agency ("EPA"), "the case for finding that *greenhouse gases in the atmosphere endanger public health and welfare is compelling and, indeed, overwhelming.*"¹⁰ The United States has known since 1965, at least, that pollution causes negative climatic effects.¹¹ In 1990, the EPA released a report to Congress detailing policy options that should be implemented to stabilize the climate. In that report, the EPA accepted as a foregone conclusion that climate change was real, was human-induced, and that something must be done to limit emissions in order to protect U.S. citizens.¹²

37. In 1991, the U.S. Office of Technology Assessment (OTA) reported that "[c]arbon dioxide and chlorofluorocarbon (CFC) emissions are responsible for 80 percent of the 'global warming commitment' caused by human activities over the last decade" and proceeded to assess the feasibility of cutting carbon dioxide emissions in the United States and abroad.¹³ As the OTA reported, "[w]e cannot yet predict the magnitude of climatic effects from greenhouse gas

⁸ *Id.* at 14 ("The cumulative weight of the scientific evidence contained in this report confirms that climate change is affecting the American people now, and that choices we make will affect our future and that of future generations."); IPCC, *AR5* 1.2.2, 124 (2013) ("Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level.").

⁹ USGCRP, *Climate Change Impacts*, *supra* note 2, at 5 ("While some climate changes will occur slowly and relatively gradually, others could be rapid and dramatic, leading to unexpected breaking points in natural and social systems.").

¹⁰ Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 18886, 18904 (Apr. 24, 2009) (to be codified in 40 C.F.R. Chapter 1) [hereinafter Proposed Endangerment] (emphasis added).

¹¹ See, e.g., Environmental Pollution Panel: President's Science Advisory Committee, *Restoring the Quality of Our Environment*, THE WHITE HOUSE 9 (Nov. 1965) (on file with Petitioners).

¹² See Daniel A. Lashof and Dennis A. Tirpak, *Policy Options for Stabilizing Global Climate*, ENVIRONMENTAL PROTECTION AGENCY (Dec. 1990) (on file with Petitioners).

¹³ U.S. Congress, Office of Technology Assessment, *Changing by Degrees: Steps to Reduce Greenhouse Gases*, OTA-O-482 Forward (Feb. 1991) (on file with Petitioners).

emissions with accuracy. But it is clear that the decision to limit emissions cannot await the time when the full impacts are evident.”¹⁴

38. In April 2009, the EPA further stated that “the evidence points ineluctably to the conclusion that climate change is upon us as a result of greenhouse gas emissions, that *climate changes are already occurring that harm our health and welfare, and that the effects will only worsen over time in the absence of regulatory action.*”¹⁵

39. Several courts of law in the United States and around the world have also recognized that human-induced climate change is occurring and that the impacts are severe, thereby necessitating governments to take immediate action to reduce greenhouse gas emissions and increase carbon sequestration capacity to protect their citizens. Just this year a court in South Africa found: “Climate variability, including the increased frequency and intensity of extreme weather events will be consequential for society as a whole” . . . “climate change in fact poses several ‘high risks’ that cannot be effectively mitigated, most significant being the threat of increasing water scarcity in the Lephalale district.”¹⁶ A court in the Netherlands has ordered the government to reduce greenhouse gas emissions, finding “it is currently very probable that within several decades dangerous climate change will occur with irreversible consequences for man and the environment. The State acknowledges that this is a serious problem and that it is also necessary to avert this threat by mitigating greenhouse gas emissions.”¹⁷ In a climate change case in Washington, a state court found:

In fact, as Petitioners assert and this court finds, their very survival depends upon the will of their elders to act now, decisively and unequivocally, to stem the tide

¹⁴ *Id.* at 3.

¹⁵ Proposed Endangerment, *supra* note 7, at 18904 (emphasis added).

¹⁶ *In re: Earthlife Africa Johannesburg & the Minister of Env'tl. Affairs, et al.* 2017 (65662/16) 2 All SA 519 (GP) at paras. 25, 49 (S. Afr.), <http://www.saflii.org/za/cases/ZAGPPHC/2017/58.pdf>.

¹⁷ Rb. Den Haag 24 juni 2015, RvdW 2015, 7145 m.nt. E.H. Hulst (Stichting Urgenda/de Staat der Nederlanden (Ministerie van Infrastructuur en Milieu)) (Neth.), <https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:RBDHA:2015:7145>.

of global warming by accelerating the reduction of emission of GHG's before doing so becomes first too costly and then too late. The scientific evidence is clear that the current rates of reduction mandated by Washington law cannot achieve the GHG reductions necessary to protect our environment and to ensure the survival of an environment in which Petitioners can grow to adulthood safely.¹⁸

In Massachusetts, the Supreme Judicial Court ordered the Department of Environmental Protection to promulgate rules reducing the state's GHGs on an annual basis.¹⁹ It has been ten years since the U.S. Supreme Court concluded that "EPA's steadfast refusal to regulate greenhouse gas emissions presents a risk of harm to Massachusetts that is both 'actual' and 'imminent.'"²⁰

40. Greenhouse gases in the atmosphere act like a blanket over the Earth to trap the heat that it receives from the sun.²¹ More greenhouse gases in the atmosphere cause the Earth to retain more heat because less heat radiates back out into space.²² Without this greenhouse effect, the average surface temperature of the planet would be 0° F (- 18° C) instead of 59° F (15° C).²³ Scientists have understood this basic mechanism of global warming since the late nineteenth century.²⁴

41. In 2013, atmospheric carbon dioxide ("CO₂") concentration exceeded 400 ppm (parts per million) for the first time in recorded history (compared to the pre-industrial concentration of 280

¹⁸ *Foster v. Ecology*, 2015 WL 7721362 (King Cty. Sup. Ct. Nov. 19, 2015).

¹⁹ *Kain et al. v. DEP*, 474 Mass. 278, 300 (2016) (Ordering the DEP to "promulgate regulations that address multiple sources or categories of sources of greenhouse gas emissions, impose a limit on emissions that may be released, limit the aggregate emissions released from each group of regulated sources or categories of sources, set emissions limits for each year, and set limits that decline on an annual basis").

²⁰ *Massachusetts v. EPA*, 549 U.S. 497, 521 (2007) (quoting *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1992)).

²¹ See John Abatzoglou et al., *A Primer on Global Climate Change and Its Likely Impacts*, in CLIMATE CHANGE: WHAT IT MEANS FOR US, OUR CHILDREN, AND OUR GRANDCHILDREN 11, 22 (Joseph F. C. DiMento & Pamela Doughman eds., 2007) (on file with Petitioners).

²² See *id.* at 16–17.

²³ *Id.* at 17.

²⁴ See *id.* at 35 (describing the work of Swedish chemist Svante Arrhenius).

ppm).²⁵ For the first time since atmospheric CO₂ levels have been tracked, the monthly global average CO₂ concentration was 400 ppm for the entire month of March 2015.²⁶ Current atmospheric CO₂ concentrations are the highest they have been in the last 3 million years.²⁷

42. The rate of fossil fuel emissions has also increased from 1.5% per year during 1973–2000 to 2.6% per year in 2000–2014.²⁸ The rate of increase in atmospheric CO₂ concentrations is also increasing, from 0.85 ppm per year in the 1960–1970 period, to 2.0 ppm per year in the 2000–2010 period.²⁹ Concentrations of other greenhouse gases in the atmosphere have also increased from human activities. Atmospheric concentrations of methane, for example, have increased nearly 250 percent since the pre-industrial period.³⁰ Concentrations of nitrous oxide have also increased by 120 percent.³¹

43. As a result of increased atmospheric greenhouse gas emissions from human activities, the Earth has been warming in line with what scientists have predicted.³² The increased concentrations of greenhouse gases in our atmosphere, primarily CO₂,³³ have raised global surface temperature by 0.9° C (1.5° F) from 1880 to 2015, which is above the maximum warming

²⁵ NOAA, *Greenhouse Gases Continued Rising in 2013; 34 Percent Increase Since 1990*, (May 2, 2012), <http://research.noaa.gov/News/NewsArchive/LatestNews/TabId/684/ArtMID/1768/ArticleID/10553/Greenhouse-gases-continued-rising-in-2013-34-percent-increase-since-1990.aspx> (“We continue to turn the dial up on this ‘electric blanket’ of ours without knowing what the resulting temperatures will be.”).

²⁶ NOAA, *Greenhouse Gas Benchmark Reached* (May 6, 2015), <http://research.noaa.gov/News/NewsArchive/LatestNews/TabId/684/ArtMID/1768/ArticleID/11153/Greenhouse-gas-benchmark-reached.aspx>.

²⁷ Declaration of Dr. James E. Hansen in Support of Our Children’s Trust et al.’s Submission to the UN Committee on the Rights of the Child Regarding State Obligations, Children’s Rights and Climate Change 5 [hereinafter Hansen Declaration], <https://static1.squarespace.com/static/571d109b04426270152febe0/t/57d70999e3df28c0c8194bda/1473710575471/16.09.12.LWVAmicusBrief.pdf>; Dieter Lüthi et al., *High-Resolution Carbon Dioxide Concentration Record 650,000–800,000 Years Before Present* 453 NATURE 379, 379–82 (May 2008) (on file with Petitioners) (extending the previously accepted 650,000-year CO₂ record, which accounted for six complete glacial cycles, two complete glacial cycles, to 800,000 years and eight complete glacial cycles before present).

²⁸ Hansen Declaration, *supra* note 23, at 6.

²⁹ *Id.* at 8.

³⁰ AR5, *supra* note 3, at TS.2.8.3, 52 (“The concentration of CH₄ has increased by a factor of 2.5 since pre-industrial times, from 722 [697 to 747] ppb in 1750 to 1803 [1799 to 1807] ppb in 2011.”).

³¹ *Id.* at TS.2.8.4, 52.

³² AR5, *supra* note 3, at TS.2.2.1, 37; USGCRP, *Climate Change Impacts*, *supra* note 2, at 22–23.

³³ AR5, *supra* note 3, at TS.2.8, 50.

of the Holocene area, the period of relatively stable climate over the last 10,000 years, during which time human civilization developed.³⁴ In the last century, the Earth has warmed at a rate “roughly ten times faster than the average rate of ice-age-recovery warming.”³⁵ Global surface temperatures have been rising dramatically since 1951; 2010 tied for the hottest year on record, while “[t]he year 2013 tied with 2009 and 2006 for the seventh warmest year since 1880.”³⁶ 2016 was the hottest year on record and the third consecutive record-breaking year.³⁷

44. The Intergovernmental Panel on Climate Change (IPCC) has observed that “[w]arming of the climate system is unequivocal.”³⁸ The United States EPA has recognized the scientific consensus on the reality and cause of global warming and there is no longer any scientific debate about the existence of climate change: the Earth is heating up due to human activities.³⁹

Climate Change is Already Harming the State of New Mexico and is Projected to Get Worse

45. The State of New Mexico, in a recent court filing submitted by Hector Balderas, Attorney General of New Mexico, has acknowledged that climate change is happening in New Mexico and is having devastating effects:

As a state in the arid southwest, New Mexico is also experiencing the adverse effects of climate change and will suffer additional impacts in the future. Average temperatures in New Mexico have been increasing 50% faster than the global

³⁴ *Id.* at B.1, 5; Hansen Declaration, *supra* note 23, at 12; NASA, *Climate Change: Key Indicators*, http://climate.nasa.gov/key_indicators#globalTemp.

³⁵ NASA, *How is Today's Warming Different from the Past?*, NASA Earth Observatory, <http://earthobservatory.nasa.gov/Features/GlobalWarming/page3.php>.

³⁶ NASA, *Global Climate Change – Global Surface Temperature*, http://climate.nasa.gov/key_indicators#globalTemp; see NASA, *Global Climate Change: Vital Signs of the Planet*, <http://climate.nasa.gov> (“January 2000 to December 2009 was the warmest decade on record.”).

³⁷ New York Times, *How 2016 Became The Hottest Year On Record*, at https://www.nytimes.com/interactive/2017/01/18/science/earth/2016-hottest-year-on-record.html?_r=0.

³⁸ *AR5*, *supra* note 3, at B, 4.

³⁹ ENVIRONMENTAL PROTECTION AGENCY (EPA), *Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act*, ES-2 (December 7, 2009) [hereinafter *TS Endangerment Findings*], https://19january2017snapshot.epa.gov/sites/production/files/2016-08/documents/endangerment_tsd.pdf (“Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level Most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations.”).

average over the past century. According to the Third U.S. National Climate Assessment, streamflow totals in the Rio Grande and other rivers in the Southwest were 5% to 37% lower between 2001 and 2010 than the 20th century average flows. Projections of further reduction of late-winter and spring snowpack and subsequent reductions in runoff and soil moisture pose increased risks to water supplies needed to maintain cities, agriculture, and ecosystems. Drought and increased temperatures due to climate change have caused extensive tree death across the Southwest. Winter warming due to climate change has exacerbated bark beetle outbreaks by allowing more beetles, which normally die in cold weather, to survive and reproduce. According to a 2015 study by scientists at Los Alamos National Laboratories, a greenhouse gas-driven warming may lead to the death of 72% of the Southwest's evergreen forests by 2050, and nearly 100% mortality of these forests by 2100.⁴⁰

46. The University of New Mexico has agreed that climate change is a “significant societal concern.”⁴¹ The U.S. Southwest is a bellwether region and a recognized climate change epicenter of temperate North America.⁴² Because of its semi-arid climate, its ecosystems are especially sensitive to directional and episodic changes in temperature and precipitation.⁴³ Over the last century, the average annual temperature in the Southwest has increased by almost 2° F.⁴⁴ The U.S. Global Change Research Program (USGCRP) has projected that average annual temperatures will rise an additional 2.5–8.5° F by the end of the century,⁴⁵ while the State of New Mexico's Agency Technical Work Group has projected average air temperature increases of between 6–12° F by the mid-late 21st Century.⁴⁶

⁴⁰ *State of California, et al. v. Zinke, et al.*, No. 4:17-cv-00042-BMM (D. Mont. May 10, 2017).

⁴¹ The University of New Mexico Greenhouse Gas Inventory 2013, Introduction, http://sustainability.unm.edu/webpdfs/UNM_GHG_ReportFY13.pdf.

⁴² Patrick McCarthy. *Climate Change Adaptation for People and Nature: A Case Study from the U.S. Southwest*, 3(1) ADVANCES IN CLIMATE CHANGE RESEARCH 22, 23 (2012), [Short URL: goo.gl/PclpLO](https://www.goo.gl/PclpLO).

⁴³ *Id.*

⁴⁴ Environmental Protection Agency, *Climate Impacts in the Southwest*, https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-southwest_.html; U.S. GLOBAL CHANGE RESEARCH PROGRAM, *Global Climate Change Impacts in the United States* 129 (2009) [hereinafter USGCRP, *Global Climate Change Impacts Report*], <https://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-report.pdf>.

⁴⁵ USGCRP, *Global Climate Change Impacts Report*, *supra* note 40, 129.

⁴⁶ Agency Technical Work Group, State of New Mexico, *Potential Effects of Climate Change on New Mexico* 1 (December 30, 2005), https://www.env.nm.gov/aqb/cc/Potential_Effects_Climate_Change_NM.pdf.

47. The combination of warming and drought in the entire Southwest region has already contributed to decreased snowpack and lowered Colorado River flows, both of which are critical water sources for New Mexico.⁴⁷ Warmer temperatures reduce mountain snow packs, causing peak spring runoff from snowmelt to occur earlier in the season. This in turn leads to longer periods of extremely low flow and lower minimum flows in late summer.⁴⁸ The EPA and other federal agencies predict that future warming will produce more severe droughts in the region, and further reduce water supplies.⁴⁹ The State of New Mexico's Agency Technical Working Group expects multiyear severe droughts to have an even greater impact on the water resources and economy of the State than previous droughts, due to increases in population and demand for water since the 1950s.⁵⁰

48. Drought-induced changes to New Mexico's environment are already occurring. Periods of drought in the southwestern United States have increased in frequency and severity within the last fifty years, coincident with rising temperatures.⁵¹ In 2009, more than half of the United States received above normal precipitation; yet the southwestern United States had one of its driest periods.⁵² Less water in reservoirs combined with summer and fall water stresses will become a growing concern and have profound consequences for water use in the Southwest.⁵³

⁴⁷ USGCRP, *Global Climate Change Impacts Report*, *supra* note 40, at 129–30.

⁴⁸ Agency Technical Work Group, State of New Mexico, *Potential Effects of Climate Change on New Mexico*, *supra* note 42 at 2.

⁴⁹ *Id.*; Environmental Protection Agency, *Climate Impacts in the Southwest*, https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-southwest_.html.

⁵⁰ Agency Technical Work Group, State of New Mexico, *Potential Effects of Climate Change on New Mexico*, *supra* note 42 at 2.

⁵¹ USGCRP, *Global Climate Change Impacts Report*, *supra* note 40, at 130.

⁵² NOAA, National Climatic Data Center, *State of the Climate, National Overview for Annual 2009* (2009), <https://www.ncdc.noaa.gov/sotc/national/2009/13#precip>.

⁵³ Tim P. Barnett et al., *Human-Induced Changes in the Hydrology of the Western United States*, 319 *Science* 1080 (2008) (on file with Petitioners); N.S. Christensen & D.P. Lettenmaier, *A Multimodal Ensemble Approach to Assessment of Climate Change Impacts on the Hydrology and Water Resources of the Colorado River Basin*, 3 *Hydrology & Earth Sys. Sci.* 3727 (2007) (on file with Petitioners); Phillip W. Mote, *Climate-Driven Variability and Trends in Mountain Snowpack in Western North America*, 19 *J. Climate* 6209, 6209 (2006) (on file with Petitioners).

Eighty-seven percent of New Mexico is currently experiencing either abnormally dry conditions or moderate drought.⁵⁴

49. The Rio Grande Valley, a central source of water in New Mexico, has shown dramatic changes in the extent of snow cover and the amount of water stored in that snow.⁵⁵ The 2014 winter experienced a fraction of the snow, and subsequent runoff from that snow, typical for New Mexico.⁵⁶ Elephant Butte Reservoir, the largest reservoir in the state, at just over two million acre-feet, was at only 13% of its capacity as of July 2016.⁵⁷ With rising temperatures and decreased snowpack, the reservoir no longer holds enough water to irrigate the 90,000 acres of farmland it supports in New Mexico and simultaneously provide half of the water supply for El Paso, Texas.⁵⁸

50. The reduced predictability of summer precipitation also creates instability for New Mexico's water supply.⁵⁹ The changes in the water cycle increase the potential for, and severity of, severe storms, flooding, and droughts.⁶⁰ Summer monsoons and thunderstorms provide important water supplies in the dry season, though they cannot make up for the decreased streamflow from diminished snowpack.⁶¹ And in arid regions like the southern region of New Mexico, increased precipitation is likely to cause flash flooding, followed by more drought.⁶²

⁵⁴ NOAA, Drought Summary — New Mexico, <http://www.srh.noaa.gov/abq/?n=drought>.

⁵⁵ 160 CONG. REC. S1425 (daily ed. Mar. 10, 2014) (statement of Sen. Martin Heinrich) (on file with Petitioners).

⁵⁶ *Id.*

⁵⁷ Texas Water Development Board, *Water Data for Texas*, <http://www.waterdatafortexas.org/reservoirs/individual/elephant-butte>.

⁵⁸ Zack Guido, *Drought on the Rio Grande*, NOAA (Oct. 4, 2012), <http://www.climate.gov/news-features/features/drought-rio-grande>; 160 CONG. REC. S1425 (daily ed. Mar. 10, 2014) (statement of Sen. Martin Heinrich) (on file with Petitioners).

⁵⁹ John R. D'Antonio, *The Impact of Climate Change on New Mexico's Water Supply and Ability to Manage Water Resources*, iv (2006), <http://www.nmdrought.state.nm.us/ClimateChangeImpact/completeREPORTfinal.pdf>; 160 CONG. REC. S1425 (daily ed. Mar. 10, 2014) (statement of Sen. Martin Heinrich) (on file with Petitioners).

⁶⁰ *TS Endangerment Findings*, *supra* note 35, at 111.

⁶¹ *Id.*

⁶² *Id.* at 115, 149

51. A 2008 report from New Mexico State University states that “[s]ocial, economic and environmental systems in water-scarce New Mexico and throughout the arid southwest are vulnerable to disruptions in water supplies that are likely to accompany future climate changes.”⁶³ A reliable water supply in the Southwest is essential for the people, agriculture, ecosystems, and energy supply; approximately 87% of New Mexico’s water use is tied up in agriculture, lawns, parks and golf courses.⁶⁴ However, groundwater supplies are stressed and experiencing decreased rates of recharge.⁶⁵ Experts have warned that climate change will only worsen these already challenging conditions,⁶⁶ leading to higher rates of water consumption, reduced snowpack, diminished and earlier spring runoff, more open water evaporation, and drier soil conditions.⁶⁷ Each of these changes reduces streamflow, dwindles reservoirs, and exacerbates drought. These changes will also increase the demand for, and conflict over, available water throughout the century,⁶⁸ and ultimately create a situation where New Mexico must either source its food, or its water, from outside the State.⁶⁹

52. New Mexico has a \$182 million ski industry, and winter tourism in the state provides more than 3,100 jobs.⁷⁰ However, climate change is causing late seasonal snow, less snow coverage, earlier wet snow avalanches, and generally shorter snow seasons.⁷¹ Increasing temperatures and decreasing snowpack in the Southwest have enormous economic consequences for the winter tourism industry, with financial ramifications rippling throughout the whole

⁶³ Brian H. Hurd & Julie Coonrad, *Climate Change and Its Implications for New Mexico’s Water Resources and Economic Opportunities*, NEW MEXICO STATE UNIVERSITY, TECHNICAL REPORT 45, 1, <http://aces.nmsu.edu/pubs/research/economics/TR45/welcome.html>.

⁶⁴ *Id.* at 24.

⁶⁵ USGCRP, *Global Climate Change Impacts Report*, *supra* note 40, at 129–30.

⁶⁶ *Id.* at 129–31.

⁶⁷ D’Antonio, *supra* note 55.

⁶⁸ USGCRP, *Global Climate Change Impacts Report*, *supra* note 40, at 130–31.

⁶⁹ Hurd and Coonrod, *supra* note 59, at 24.

⁷⁰ Elizabeth Burakowski & Matthew Magnusson, *Climate Impacts on the Winter Tourism Economy in the United States* 27 (2012), <https://www.nrdc.org/sites/default/files/climate-impacts-winter-tourism-report.pdf>.

⁷¹ USGCRP, *Global Climate Change Impacts Report*, *supra* note 40, at 133.

economy.⁷² During the 2011–2012 season, New Mexico lost approximately \$48 million in revenue due to the lack of snow.⁷³ As snow levels continue to decrease, New Mexico’s economy will increasingly suffer the consequences of a struggling industry.

53. Human-caused climate change is also posing threats to vegetation and forest survivability. In recent decades, approximately 20% of forests and woodlands in the Southwest have been impacted by drought-related mortality, bark beetle outbreaks, and severe wildfires.⁷⁴ In 2000–2003, severe drought combined with unusually high temperatures caused a significant die-off of piñon pine forests in the Four Corners region of the state. Piñon pines are a very drought-tolerant species, having survived many dry periods in the past. However, the sustained high temperatures and drought of 2000–2003 made the piñon pines more susceptible to pine-bark beetle infestations. In some areas of the Four Corners region, more than 90% of the trees have died, resulting in significant changes to the structure and function of the ecosystem.⁷⁵ Drought conditions have only begun to ease in New Mexico in recent months.⁷⁶ However, increased temperatures in the Southwest are projected to push average forest drought stress in the region to levels unsurpassed since the ‘megadroughts’ of the mid-1100s, late 1200s and late 1500s.⁷⁷

54. New Mexico’s Drought Monitoring Working Group determined in August 2012 that the previous 24 months were the warmest and driest in New Mexico’s history.⁷⁸ During 2010–2013, major fires burned in many parts of New Mexico, including the two largest fires in state

⁷² *Id.*; Burakowski & Magnusson, *supra* note 66.

⁷³ *Id.*

⁷⁴ Christopher H. Guiterman, *Climatic Sensitivities of Navajo Forestlands: Use-Inspired Research to Guide Tribal Forest Management* 3 (2014), <http://www.climas.arizona.edu/sites/default/files/pdfclimas-fellow-finalreport2014guiterman.pdf>.

⁷⁵ USGCRP, *Global Climate Change Impacts Report*, *supra* note 40, at 131–32; *see also* William R. L. Anderegg, et al., *Consequences of Widespread Tree Mortality Triggered By Drought and Temperature Stress* 3 *NATURE CLIMATE CHANGE* 30 (Sept. 9, 2012), <http://www.nature.com/nclimate/journal/v3/n1/full/nclimate1635.html>.

⁷⁶ Kirk Siegler, *New Mexico Rejoices as Years-Long Drought Finally Eases* (Aug. 21, 2015), <http://www.npr.org/2015/08/21/433544113/new-mexico-rejoices-as-years-long-drought-finally-ease>.

⁷⁷ Guiterman, *supra* note 70, at 3.

⁷⁸ New Mexico Governor’s Drought Task Force, *Fire Information*, http://www.nmdrought.state.nm.us/fire_info.html.

history.⁷⁹ During the summer of 2011, fires blackened large areas near Raton and Ruidoso, as well as in the Gila National Forest of southwestern New Mexico.⁸⁰ The Las Conchas fire near Santa Fe devoured nearly 40,000 acres in the course of one day in late June 2011, and ended up being the largest New Mexico wildfire at that time.⁸¹ The Las Conchas fire ultimately burned 156,000 acres, causing catastrophic losses to the Pueblo of Cochiti and the Pueblo of Santa Clara⁸² and the loss of several ecosystem services.⁸³ However, in the dry spring of 2012, the Whitewater Baldy Complex fire in southwestern New Mexico grew to nearly 300,000 acres in size, surpassing the Las Conchas fire from the prior year.⁸⁴ Then in 2013 the Silver Fire, east of Silver City, burned over 138,000 acres, another to add to the list of record-setting wildfires.⁸⁵ Wildfires in these areas not only threaten endemic species like the Jemez Mountains salamander, but also threaten water supplies, irrigated farms, indigenous communities, life and property.⁸⁶ Although 2014–2015 saw a drop in the number of wildfires and the total number of acres lost to fire in New Mexico,⁸⁷ 2016 is on pace to return to the dangerous levels of the previous years.⁸⁸ The two largest fires of 2016 — the Dog Head Fire that burned 17,912 acres and the North Fire that burned 42,102 acres, both in June 2016 — as the state suffers with triple-digit temperatures and delayed onset of the monsoon rains.

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *Id.*

⁸³ Nancy B. Grimm et al., *Climate-Change Impacts on Ecological Systems: Introduction To a US Assessment*, 11(9) FRONT. ECOL. ENVT. 456, 461 (2013), <http://www.esajournals.org/doi/pdf/10.1890/120310>.

⁸⁴ New Mexico Governor's Drought Task Force, *supra* note 74.

⁸⁵ NOAA National Climatic Data Center, *Wildfires - June 2013*, <http://www.ncdc.noaa.gov/sotc/fire/2013/6>.

⁸⁶ Patrick McCarthy, *supra* note 38, at 24.

⁸⁷ National Interagency Fire Center, https://www.nifc.gov/fireInfo/fireInfo_statistics.html; see also Union of Concerned Scientists, *Confronting Climate Change in New Mexico: Action Needed Today To Prepare the State for a Hotter, Drier Future* 7 (Apr. 2016), <http://www.ucsusa.org/sites/default/files/attach/2016/04/Climate-Change-New-Mexico-fact-sheet.pdf>.

⁸⁸ National Interagency Fire Center, *supra* note 83 (listing 9 wildfires burning a total of 85,996 acres as of July 11, 2016).

55. New Mexico's Ponderosa Pine forests have naturally developed with regular forest fires, but they are intolerant to the extremely hot and large forest fires, like Las Conchas and Whitewater Baldy Complex, that are exacerbated by a warming climate and the associated dry conditions. Studies by Los Alamos National Laboratory have revealed that a significant portion of high elevation conifer forests in New Mexico will be gone by mid-century.⁸⁹ These forests provide opportunities for recreation, and habitat for wildlife, but they also support the watersheds on which New Mexicans depend.

56. These severe and atypical burns threaten New Mexico's surface water resources as well, due to the severe flooding and erosion problems that follow, reducing reservoir storage and surface water quality and usability.⁹⁰ As one example, the City of Santa Fe had to cease diverting water from the Rio Grande when ash from the Las Conchas fire contaminated the river upstream of the City's intake.⁹¹ Likewise, Bonito Lake near Ruidoso, an essential source of water for the City of Alamogordo, became unusable from silt and ash runoff caused by the Little Bear fire.⁹² It may remain unusable for years.⁹³

57. New Mexico is the fourth-most biologically diverse State in the contiguous United States.⁹⁴ The New Mexico Department of Game and Fish's State Wildlife Action Plan acknowledged that New Mexico's rich biodiversity is increasingly threatened by the interrelated

⁸⁹ A. Park Williams et al., *Temperature as a Potent Driver of Regional Forest Drought Stress and Tree Mortality* (2012), <http://www.nature.com/nclimate/journal/v3/n3/full/nclimate1693.html>; News Release, Los Alamos National Laboratory, *Climate Change Cripples Forests* (Oct. 1, 2012), <http://www.lanl.gov/environment/sustainability/stories/10.01-climate-change-cripples-forest.php>.

⁹⁰ New Mexico Governor's Drought Task Force, *supra* note 74.

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.*; see also Kim Vallez, *Bonito Lake Still Struggles After Fire*, KRQE NEWS 13 (Mar. 12, 2014), <http://krqe.com/2014/03/12/bonito-lake-still-struggles-after-fire>; Dianne L Stallings, *Bonito Lake Opening Moved to August 2018*, RUIDOSO NEWS (Apr. 29, 2016), <http://www.ruidosonews.com/story/news/local/2016/04/28/bonito-lake-opening-moved-august-2018/83670678>.

⁹⁴ Carolyn Enquist & Dave Gori, *A Climate Change Vulnerability Assessment for Biodiversity in New Mexico, Part II 3* (Dec. 2008) [hereinafter *Biodiversity in New Mexico II*], http://fws-case-12.nmsu.edu/case/santafe/documents/CC_report2_final.pdf (June 8, 2017).

impacts of climate change.⁹⁵ For example, in the Jemez Watershed and greater Jemez Mountains, increasing moisture stress, declining snowpack, forest dieback, increasing wildfires, and soil erosion have resulted in population declines in sensitive species, including the Jemez Mountains salamander and Goat Peak pika.⁹⁶

58. Terrestrial biodiversity is vulnerable to climate change in a number of ways. For example, as geographical ranges shift to higher and more northern elevations, some species may be trapped on isolated mountains ranges and become locally extinct.⁹⁷ As a result, for instance, the New Mexico Ridge-nosed Rattlesnake's habitat is "receding upwards in elevation and will shift 750km NW under conservative climate estimates."⁹⁸ The species' extinction, expected at some point in the next twenty years, is considered a "bellwether for the eventual climate-driven collapse of the Madrean pine-oak ecosystem, one of Earth's three recognized megadiversity centers."⁹⁹ The National Audubon Society has identified 314 bird species at risk from climate change nationally, with the Burrowing Owl, Black Rosy-Finch, Letter Prairie-Chicken, Red-Faced Warbler, Sandhill Crane and Western Bluebird at particular risk in New Mexico.¹⁰⁰ Terrestrial flora is will also be impacted by climate change: invasions of non-native species are likely, and shrubs such as mesquite and crosotebush are likely to further invade grasslands.¹⁰¹

59. Aquatic biodiversity is also particularly vulnerable to climate change. These systems are not only impacted by warmer temperatures, but also by changes in the timing and amount of

⁹⁵ Carolyn Enquist & Dave Gori, *A Climate Change Vulnerability Assessment for Biodiversity in New Mexico, Part I* iv (Apr. 2008), http://fws-case-12.nmsu.edu/case/santafe/documents/NMClimateChange_report1_527.pdf.

⁹⁶ *Id.* at 33; *Biodiversity in New Mexico II*, *supra* note 90, at 3.

⁹⁷ Agency Technical Work Group, State of New Mexico, *Potential Effects of Climate Change on New Mexico*, *supra* note 42, at 3.

⁹⁸ Davis et al., *Nowhere to Go but Up: Impacts of Climate Change on Demographics of a Short-Range Endemic (Crotalus willardi obscurus) in the Sky-Islands of Southwestern North America*, PLOS ONE 10(6): e0131067, <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0131067#sec001>.

⁹⁹ *Id.*

¹⁰⁰ AUDUBON N.M., *Climate Change*, <http://nm.audubon.org/conservation/climate>.

¹⁰¹ Agency Technical Work Group, State of New Mexico, *Potential Effects of Climate Change on New Mexico*, *supra* note 42, at 3.

water.¹⁰² As a result, climate change is expected to result in a significant loss of aquatic habitation, with cold water fish habitats replaced by warm water fish habitats.¹⁰³ Furthermore, extinction rates of many endemic species of the eastern plains of New Mexico are expected to increase, while riparian ecosystems, and the diversity species within them, are expected to decrease.¹⁰⁴

60. Climate change poses a myriad of negative impacts to the health and welfare of New Mexicans. Climate change-induced drought leads to food shortages, threatens the quality and quantity of the drinking water supply, causes heat related deaths among vulnerable parts of the population, and stresses the capacity of sanitation systems, any of which can displace human populations.¹⁰⁵

61. Public health implications from drought also include adverse impacts on air quality and diminished living conditions because of scarce energy.¹⁰⁶ Incidents of malnutrition, illness, and disease will increase, in addition to other mental and physical health problems resulting from low quality and quantities of water, as well as an increase in dust.¹⁰⁷ Warming temperatures exacerbate the frequency, intensity, and duration of conditions conducive to air pollution, thereby threatening the health and wellbeing of people who suffer from respiratory illnesses like asthma and pulmonary disease.¹⁰⁸ Threats to public safety from an increase in the number and severity of forest and range fires will persist.¹⁰⁹

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ *Id.* at 19.

¹⁰⁵ New Mexico Governor's Drought Task Force, *Drought Impact on Our Economy*, http://www.nmdrought.state.nm.us/fin_economy.html; New Mexico Governor's Drought Task Force, *Drought and Health*, http://www.nmdrought.state.nm.us/df_health.html.

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

¹⁰⁸ USGCRP, *Global Climate Change Impacts Report*, *supra* note 40, at 92–93.

¹⁰⁹ New Mexico Governor's Drought Task Force, *Drought and Health*, *supra* note 101.

The health implications of drought are numerous and far reaching. Some drought-related health effects are experienced in the short-term and can be directly observed and measured. However, the slow rise or chronic nature of drought can result in longer term, indirect health implications that are not always easy to anticipate or monitor.¹¹⁰

Longer-lasting and more intense heat waves will deplete electricity supplies as more people use air conditioning, increasing the risk of brownouts and blackouts. This could become even more problematic as the timing of river flows decreases the capacity of hydroelectric systems.¹¹¹

62. Under the Air Quality Control Act, the Board shall consider the “character and degree of injury to or interference with health, welfare, visibility and property.” N.M. STAT. ANN. § 74-2-5(E). The climate impacts described herein clearly warrant the Board invoking its duty to promulgate a rule and develop a plan that requires the reduction of greenhouse gas emissions in line with what is required by best available science.

Greenhouse Gas Emissions in New Mexico are Contributing to and Causing Climate Change

63. New Mexico contributes greatly to the amount of greenhouse gas emissions that are generated in the United States. New Mexico produces about 10% of the U.S. natural gas supply, is a leading coalbed methane producer, and supplies 3% of the United States’ oil production.¹¹² An inventory of the amount of emissions generated by the products imported and consumed in New Mexico has not been done. Currently, New Mexico does not cap emissions of carbon dioxide emitted by all major sources.

64. On March 15, 2010, NMED released an Inventory of Greenhouse Gas Emissions for the years 2000–2007. This inventory only analyzes emissions generated in the state of New Mexico,

¹¹⁰ *Id.*

¹¹¹ USGCRP, Global Climate Change Impacts Report, *supra* note 40, at 59.

¹¹² Institute for Energy Research, New Mexico Energy Facts, <http://instituteforenergyresearch.org/media/state-regs/pdf/New%20Mexico.pdf>.

not those emissions generated by imported goods and services. In this report, NMED acknowledged that “[t]he impact that climate change has on the state’s economy, environment and public welfare is paramount.”¹¹³ The inventory reports the consumption of energy in New Mexico in 2007 resulted in the release of 72 MMTCO₂e.¹¹⁴ The report found that GHG emissions in New Mexico “are dominated by electricity production and consumption, fossil fuel industry and transportation sectors.”¹¹⁵ In 2007, electricity production was responsible for 41% of New Mexico’s greenhouse gas emissions, the fossil fuel industry 22%, and transportation 20%.¹¹⁶ In 2007, coal produced about 73.2% of the state’s electricity, while natural gas generated over 22%.¹¹⁷ In 2007, agriculture was responsible for about 5% of the state’s emissions and residential/commercial/industrial energy use accounted for 8%.¹¹⁸ In 2008 New Mexico had about 150 Clean Air Act Title V sources that emitted carbon dioxide (approximately 24.2 MMTCO₂ in 2008), primarily from combustion.¹¹⁹ The top twenty-five Title V greenhouse gas emitting sources were responsible for about 90% of Title V-reported emissions.¹²⁰

65. The U.S. Energy Information Administration reports energy-related CO₂ emissions for each state.¹²¹ This accounting indicates that New Mexico was responsible for 50 million metric tons of carbon dioxide emissions in 2014, a 6 percent decrease from the amount emitted in 1990.¹²²

¹¹³ New Mexico Environment Department, *Inventory of New Mexico Greenhouse Gas Emissions: 2000–2007* (March 15, 2010), https://www.env.nm.gov/cc/documents/GHGInventoryUpdate3_15_10.pdf.

¹¹⁴ *Id.* at 9. The exact figure for total emissions from consumption of energy is not stated in the report. The figure of 72 MMTCO₂e is interpreted from the graph on page 9.

¹¹⁵ *Id.* at 2.

¹¹⁶ *Id.*

¹¹⁷ Institute for Energy Research, *supra* note 108.

¹¹⁸ New Mexico Environment Department, *Inventory of New Mexico Greenhouse Gas Emissions: 2000–2007*, *supra* note 109, at 8.

¹¹⁹ *Id.* at 45.

¹²⁰ *Id.*

¹²¹ U.S. Energy Information Administration, *State Carbon Dioxide Emissions, Summary*, <https://www.eia.gov/environment/emissions/state>.

¹²² *Id.*

66. The amount of greenhouse gases generated by New Mexicans is quite significant. A statewide greenhouse gas inventory conducted in 2006 by the Center for Climate Strategies indicates “[o]n a per capita basis, New Mexico produces near twice the GHG emissions as the national average (45 v. 25 tCO₂e per person).”¹²³ This is due largely to New Mexico’s greenhouse gas-intensive oil, gas, and electricity producing industries. The report, prepared on behalf of the New Mexico Environment Department, concluded that “New Mexicans actually consume more gasoline and diesel fuel, and produce more transportation-related GHG emissions, than the average American.”¹²⁴

Current Climate Science Provides a Prescription for New Mexico to do its Part to Protect New Mexicans, Restore the Atmosphere, and Stabilize the Climate System

67. State governments must implement measures to reduce greenhouse gas emissions to do their part in order to achieve atmospheric CO₂ concentrations of 350 ppm or lower to avoid catastrophic and irreversible climate impacts.¹²⁵

68. Current science also shows that, to protect Earth’s natural systems, long-term average global surface heating should not exceed 1° C this century for a long period of time. According to the current climate science, to prevent prolonged global heating greater than 1° C,

¹²³ Center for Climate Strategies, *New Mexico Greenhouse Gas Inventory and Reference Case Projections, 1990–2020* 6 (Nov. 2006), <https://assets.documentcloud.org/documents/31398/nm-ghg-inventory.pdf>.

¹²⁴ *Id.*

¹²⁵ James E. Hansen et al., *Target Atmospheric CO₂: Where Should Humanity Aim?* 2 OPEN ATMOS. SCI. 217 (2008), http://www.columbia.edu/~jeh1/2008/TargetCO2_20080407.pdf (“If humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted, Paleoclimate evidence and ongoing climate change suggest that CO₂ will need to be reduced from its current 385 ppm to at most 350 ppm.”).

concentrations of atmospheric CO₂ must decline to 350 ppm or less by the end of this century.¹²⁶ However, today's atmospheric CO₂ levels are above 405 ppm and are rising.¹²⁷

69. It is imperative that the EIB grant this petition and set greenhouse gas emission limits for New Mexico targeted to achieving a maximum of 350 ppm in global CO₂ levels, in order to avoid the catastrophic impacts to the climate system, the State's natural and cultural resources, and current and future generations of New Mexicans. Reducing global atmospheric CO₂ to 350 ppm by the end of this century requires that — if global CO₂ emissions had peaked in 2012 — they be reduced by 6% per year beginning in 2013, alongside 100 GtC of global reforestation throughout the century. If emissions peaked and reductions began in 2005, only a 3.5% per year reduction would have been necessary to reach 350 ppm by 2100. If emission reductions begin in 2017, an 8% per year reduction rate would be required to reach 350 ppm by 2100. With each year of delay, steeper emissions reductions are required, thus requiring immediate emission reductions before it becomes too difficult to return to 350 ppm until well after 2500, which would make many of the most significant climate impacts inevitable for present and future generations of New Mexicans.¹²⁸ Thus, it is imperative and urgent that the EIB develop greenhouse gas emissions reductions designed to put New Mexico on track for 350 ppm and ensure that New Mexico does its part to meet these limits.

70. Direct and actual regulation and reduction of emissions of CO₂ from sources within the state of New Mexico can be eliminated with technologies that are now available or reasonably foreseeable. Under the AQCA, sources are defined as any “structure, building, equipment, facility, installation or operation that emits or may emit an air contaminant.” N.M. STAT. ANN.

¹²⁶ See *id.*; James Hansen, STORMS OF MY GRANDCHILDREN 164–66 (2009).

¹²⁷ NASA, Facts, Carbon Dioxide, <http://climate.nasa.gov/vital-signs/carbon-dioxide>.

¹²⁸ See James E. Hansen et al., *Scientific Case for Avoiding Dangerous Climate Change to Protect Young People and Nature* (July 9, 2012), <http://pubs.giss.nasa.gov/abs/ha08510t.html>.

§ 74-2-2(T). Emissions of greenhouse gases from all of these sources can and should be regulated by the EIB. This can be done at reasonable cost by creating annual and long-term CO₂ reduction targets at the state level, as other states have done, as part of the plan “for the regulation, control, prevention or abatement of air pollution.”¹²⁹ N.M. STAT. ANN. § 74-2-5(B)(2).

71. As part of the legally required plan “for the regulation, control, prevention or abatement of air pollution” the EIB must pursue policies to foster the transition towards a renewable energy system. N.M. STAT. ANN. § 74-2-5(B)(2). Experts state that approaches to transitioning to a renewable energy system and to phasing out fossil fuels by about 2050 include some combination of the following measures: a cap on fossil fuel use that declines to zero by 2050; increasingly stringent efficiency standards; elimination of direct and indirect subsidies and other incentives for fossil fuel extraction, transportation, and combustion; investment in a vigorous and diverse research, development and demonstration program; banning new coal-fired and natural gas-fired power plants and phasing out existing coal-fired and natural gas-fired power plants; adoption of a policy that would aim to have essentially carbon-free state and local governments, including almost all of their buildings and vehicles by 2030; and adoption of a gradually increasing renewable portfolio standard for electricity until it reaches 100% by about 2050.¹³⁰

The EIB should fully consider and recommend any of these measures it believes are necessary to achieve its own annual emissions reduction measures to transition off of fossil fuels.

¹²⁹ Alaska, California, Colorado, Connecticut, Florida, Maine, Maryland, Massachusetts, New Hampshire, New York, Oregon, Pennsylvania, Virginia, and Washington already taken steps to regulate emissions of greenhouse gas emission. The District of Columbia, Delaware, Hawaii, Michigan, Minnesota, New Jersey, Rhode Island, Vermont, and Wisconsin have climate change legislation in progress. See Georgetown Climate Center, at <http://www.georgetownclimate.org/adaptation/plans.html>.

¹³⁰ See, e.g., Jacobson, MZ, *et al.* (2015), 100% Clean and Renewable Wind, Water, and Sunlight (WWS) All-Sector Energy Roadmaps for the 50 United States, *Energy Environ. Sci.*, 2015, 8, 2093.

72. There are a number of policies the EIB can adopt by rule to cap and regulate emissions of greenhouse gases within the confines of its constitutional and statutory authority. For example, the EIB can promulgate a rule to (1) directly regulate stationary sources of greenhouse gases, such as oil and gas wells, by requiring that they cap the amount of emissions generated (on a cumulative as opposed to an individual basis) and be required to reduce greenhouse gas emissions in order to achieve science-based targets; (2) develop low-carbon fuel standards for the transportation sector or clean car regulations that require reductions in emissions; (3) develop a renewable energy portfolio standard to increase energy efficiency and reduce the need for fossil power generation; (4) cap and regulate emissions from the fossil fuel sector; and (5) cap and regulate greenhouse gas emissions from the agriculture sector. Through the rulemaking process, the EIB can and should investigate additional policy measures within its authority to implement to reduce greenhouse gas emissions. Furthermore, experts have already prepared plans for New Mexico (as well as every other state and over 100 countries) that would allow New Mexico to transition off fossil fuels and get 100% of its energy, for all sectors, from clean and renewable energy sources: wind, water, and sunlight by 2050.¹³¹

The Transition to 100% Renewable Energy Provides Optimum Health, Safety, Comfort, Economic and Social Well-Being for All New Mexicans.

73. Transitioning to 100% renewable energy—wind, water, solar (“WWS”)—will have dramatic positive impacts on the lives of all New Mexicans and will fulfill the statutory intent of the New Mexico Air Quality Act. There are four primary areas in which this impact can be seen: mortality and disease, social costs, economic costs, and job creation. All factors weigh heavily in

¹³¹ See, e.g., Jacobson, MZ, et al. (2015), *100% Clean and Renewable Wind, Water, and Sunlight (WWS) All-Sector Energy Roadmaps for the 50 United States*, 8 ENERGY ENVTL. SCI., 2093, 2105; The Solutions Project, 100% New Mexico, at <http://thesolutionsproject.org/why-clean-energy/> (outlining the transition to 100% wind, water, and solar for electricity, transportation, heating/cooling and industry).

favor of transitioning towards a 100% renewable energy system by 2050 in the state of New Mexico.

74. First, air pollution, as well as other climate change impacts, drastically effect mortality and disease: “The premature human mortality rate in the U.S. due to cardiovascular disease, respiratory disease, and complications from asthma due to air pollution has been estimated conservatively by several sources to be at least 50,000–100,000 per year.”¹³² That data, compared with mortality rates in the United States as a whole, means that approximately 3% of annual deaths are directly attributable to air pollution, without considering other climate change–caused mortality rates.¹³³ All premature anthropogenic air pollution mortality, in 1990, is estimated at 80,000 to 137,000.¹³⁴

75. Second, the “social cost due to air pollution mortality, morbidity, lost productivity, and visibility degradation in the U.S. in 2050 is conservatively estimated . . . to be \$600 (85–2400) bil[lion] per year.”¹³⁵ Eliminating these social costs would represent economic savings equivalent to approximately 3.6% of the GDP, and “the cost of installing all WWS generators . . . due to the avoided air pollution costs alone is 20 (5–140) years.”¹³⁶ Third, “the global climate cost savings per person in the U.S. due to reducing all U.S. climate-relevant emissions through a 100% WWS system is ~\$8300 (4700–17 600) per person per year (in 2013 dollars).”¹³⁷ Finally, a shift to 100% WWS generators would result in a net creation of approximately 2.0 million 40-year jobs.¹³⁸ This net job-creation approximation includes all jobs lost from eliminated “fossil-

¹³² Mark Jacobsen, et al., *100% Clean and Renewable Wind, Water, and Sunlight (WWS) All-Sector Energy Roadmaps for the 50 United States*, 8 ENERGY ENVTL. SCI. 2093, 2105 (2015).

¹³³ *See id.*

¹³⁴ *See id.*

¹³⁵ *Id.* at 2107.

¹³⁶ *Id.*

¹³⁷ *Id.* at 2109.

¹³⁸ *See id.* at 2110. A 40-year job is where a person is consecutively employed for 40 years.

based electricity generation, petroleum refining, and uranium production industries” and those created through new WWS generators.¹³⁹

76. In New Mexico alone, the benefits would be especially dramatic, resulting in approximately 30,548 new 40-year jobs.¹⁴⁰ The “[a]nnual energy, health, and climate cost savings per person in [New Mexico] in 2050” would be approximately \$19,762, including a \$437 energy cost savings per year, alone.¹⁴¹ Moreover, a switch to 100% WWS in New Mexico would pay for itself in as little as two years “from air pollution and climate cost savings alone,”¹⁴² including a \$2.5 billion health savings per year, the equivalent of 2% of the state GDP and saving 353 New Mexican lives per year.¹⁴³

***The State Has Authority and a Mandatory Duty to Implement a
Greenhouse Gas Emissions Reduction Program***

77. As discussed in Section I, the EIB and NMED, have a clear statutory duty to “prevent or abate air pollution” by reducing greenhouse gas emissions. In N.M. STAT. ANN. 1978 § 74-1-2, the legislature recognized that NMED:

will be responsible for environmental management and consumer protection in this state in order to ensure an environment that in the greatest possible measure will confer optimum health, safety, comfort and economic and social well-being on its inhabitants; will protect this generation as well as those yet unborn from health threats posed by the environment; and will maximize the economic and cultural benefits of a healthy people.

¹³⁹ *Id.*

¹⁴⁰ *See Clean Energy*, THE SOLUTIONS PROJECT, <http://thesolutionsproject.org/why-clean-energy> (click on New Mexico on the graphic) (last visited June 15, 2017).

¹⁴¹ *Id.*

¹⁴² *Id.*

¹⁴³ *Id.*

The EIB, established under N.M. STAT. ANN. 1978 § 74-1-4, has a mandatory statutory duty to “prevent or abate air pollution.”¹⁴⁴ The New Mexico Court of Appeals has described this mandate as being “expressed in simple and direct language.” *Public Serv. Co. of New Mexico v. New Mexico Envtl. Improvement Bd.*, 89 N.M. 223, 227, 549 P.2d 638 (1976). “[T]he adoption of air pollution control regulations, even though an exercise of the police power for the protection of human health, animal and plant life, property and the use thereof, and the general welfare of the public, is still a proper function of a board, in that the regulation-making power exercised in this function is conferred on a board for the accomplishment of the general objectives and policies announced by the Legislature in the Air Quality Control Act.” *Wylie Bros. Contracting Co. v. Albuquerque-Bernalillo County Air Quality Control Bd.*, 80 N.M. 633, 638, 459 P.2d 159 (1969).

78. The Air Quality Control Act defines “air pollution” as “the emission . . . into the outdoor atmosphere of one or more air contaminants in such quantities and duration as may with reasonable probability injure human health” N.M. STAT. ANN. 1978 § 74-2-2(B). In exercising its authority under the Act, the Board must consider and protect the public interest, which “is a broad enough concept to permit the Board to weigh how the public will best be served” *Public Serv. Co. of New Mexico*, 89 N.M. at 233 (dissenting opinion).

79. The EIB and NMED have an affirmative, mandatory duty — expressed in statute and embodied in and protected by the New Mexico State Constitution and the Public Trust Doctrine¹⁴⁵ — to protect its natural resources, including the air, for present and future generations of New Mexicans. *Sanders-Reed, ex. rel Sanders-Reed v. Martinez*, 350 P.3d 1221,

¹⁴⁴ N.M. STAT. ANN. 1978 § 74-2-5(A).

¹⁴⁵ N.M. CONST. art. II, § 2 (“All political power is vested in and derived from the people: all government of right originates with the people, is founded upon their will and is instituted solely for their good.”).

1226 (N.M. Ct. App. 2016) (“Section 21 of our constitution recognizes the duty to protect the atmosphere and other natural resources, and it delegates the implementation of that specific duty to the Legislature,” who has in turn delegated that duty to the EIB). The New Mexico Court of Appeals recently recognized that Article XX, Section 21 of the New Mexico Constitution embodies the Public Trust Doctrine, an inalienable and constitutionally based doctrine requiring all sovereign governments to prevent substantial impairment of essential natural resources held in trust for present and future generations:

The protection of the state’s beautiful and healthful environment is hereby declared to be of fundamental importance to the public interest, health, safety and the general welfare. The legislature shall provide for control of pollution and control of despoilment of the air, water and other natural resources of this state, consistent with the use and development of these resources for the maximum benefit of the people.¹⁴⁶

80. The EIB, therefore, has a constitutional obligation to protect and manage its natural resources, including the air, for present and future generations of New Mexicans in a manner that complies with the requirements of the Public Trust Doctrine.¹⁴⁷ Specifically, the EIB must promulgate a rule and develop a plan for regulating greenhouse gas emissions that ensures the protection and management of the lands, navigable waters, atmosphere, climate and other natural resources for the benefit of present and future generations.

81. The Public Trust Doctrine is an inalienable and constitutionally-based attribute of sovereignty that requires all sovereign governments, including the State of New Mexico and its state agencies, to act to prevent degradation of essential natural resources held in trust on behalf of present and future generations. The Public Trust Doctrine holds that certain crucial natural

¹⁴⁶ N.M. CONST. art. XX, § 21; *Sanders-Reed v. Martinez*, 350 P.3d 1221, 1226 (N.M. Ct. App. 2015). In *Sanders-Reed v. Martinez*, 350 P.3d at 1225, the Court of Appeals agreed that Article XX, Section 21 “recognizes that a public trust duty exists for the protection of New Mexico’s natural resources, including the atmosphere, for the benefit of the people of the state.”

¹⁴⁷ *Sanders-Reed v. Martinez*, 350 P.3d at 1225.

resources, such as the atmosphere, are the shared, common property of all citizens, cannot be subject to private ownership, and must be preserved and protected by the government.

82. Given the aforementioned constitutional and statutory duty to act, Petitioners respectfully request that the EIB adopt the proposed regulation because it is “consistent with the Air Quality Control Act to attain and maintain national ambient air quality standards and prevent or abate air pollution.”¹⁴⁸ Additionally, through the rulemaking process, the EIB must meet the obligations imposed by the Public Trust Doctrine, enshrined in New Mexico’s Constitution and statutes.

83. Neither the EIB nor NMED are restricted by federal law from fulfilling their Public Trust obligations by promulgating and implementing a Greenhouse Gas Reduction Program. Treating any concurrent federal emissions standards as anything other than a floor would undermine the New Mexico’s sovereignty and impede, if not abrogate, the State’s constitutional and public trust obligations.

84. Cumulatively, the proposed rule will put New Mexico on course to achieve greenhouse gas emission reductions on the scale necessary to avert disastrous consequences and substantial impairment to public trust resources in the state. These actions will also allow the EIB and the Department to prevent and abate air pollution in a way that confers “optimum health, safety, comfort and economic and social well-being on its inhabitants,”¹⁴⁹ as every delay in emission reductions only increases necessary future reductions, as well as making those reductions more costly, less effective, and potentially impossible. Implementing stringent greenhouse gas emission reduction regulations and policies, grounded in science, will help fulfill the Environmental Protection and Air Quality Control Acts’ long-term goals — goals that will not be achieved with current policy and a lack of greenhouse gas regulation. Failure to take immediate

¹⁴⁸ See N.M. STAT. ANN. 1978 § 74-2-5(B)(1).

¹⁴⁹ N.M. STAT. ANN. 1978 § 74-1-2.

action to significantly reduce greenhouse gas emissions will increase the cost and magnitude of future reduction requirements and, more significantly, will result in irreversible adverse effects on youth petitioners, other children, and future generations of New Mexicans.

IV. Petitioners' Proposed Regulatory Change

85. Petitioners' proposed greenhouse gas reduction program is necessary because emissions of greenhouse gases in New Mexico are causing and contributing to increased global concentrations of greenhouse gases in the atmosphere and the federal government has failed to act to protect New Mexicans. The best available climate science informs us that these increased concentrations are warming the climate globally and locally, and that, unless abated, will have significant, adverse impacts to the health and welfare of Petitioners and all New Mexicans, including future generations.

86. The best available climate science indicates that emissions reductions directed at bringing atmospheric CO₂ concentration to 350 ppm by 2100 are necessary in order to avoid the worst effects of climate change. These regulations are intended to reduce greenhouse gas emissions in New Mexico in a manner consistent with best available science, and in recognition of New Mexico's current and historical contribution to global warming and its responsibility to present and future generations of New Mexicans. These regulations, however, should be reviewed periodically to assure that they remain consistent with the best climate science. *The proposed regulations include the requirements as set forth in Exhibit 1 to this petition.*

V. CONCLUSION

87. Climate change is the most pressing and dangerous issue of our time. Climate change is a direct result of excessive greenhouse gas emissions, and its harmful impacts are already being felt in New Mexico by these Petitioners. These impacts will continue to occur and worsen

without decisive, immediate and bold action by the EIB, NMED, and the State. Best available climate science concludes that atmospheric greenhouse gas levels must be reduced from the current global annual mean of 405 ppm to 350 ppm by 2100 in order to achieve climate stabilization before the Earth's climate, and its dependent ecosystems, are irreversibly altered.

88. By granting this petition, the EIB has the present ability to curtail the environmental harms detailed throughout the Statement of Reasons accompanying this petition and fulfill its constitutional and statutory responsibilities to the citizens of New Mexico. By promulgating and implementing a Greenhouse Gas Reduction Program in New Mexico, atmospheric CO₂ concentrations will decrease (or at a minimum slow their increase). The environmental harms and threats to human health and safety described herein can only be avoided if atmospheric CO₂ concentrations are immediately reduced. Any more delay risks irreversible and catastrophic consequences for youth and future generations.

Respectfully submitted this 27th day of June, 2017, on behalf of Petitioners,



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