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## “Promoting Coal at a Climate Summit is like Promoting Tobacco at a Cancer Summit”<sup>1</sup>

Emily Lavalley



Emily Lavalley was a Political Science and Environmental Studies major and member of Pi Sigma Alpha since her sophomore year. Her second major and interest in climate change, clean air and water inform much of her political research. Emily began working as an Experiential Education Coordinator at a non-profit in Newark, New Jersey this past February.

In November 2017, representatives around the world met in Bonn, Germany to strategize effective implementation of the Paris Agreements. Developed countries had the opportunity to display its respective efforts in climate change mitigation and adaptation. The United States was the only developed country which opted out. The United States official delegates did host one event during the two-week conference: a panel discussion called “The Role of Cleaner and More Efficient Fossil Fuels and Nuclear Power in Climate Mitigation”.<sup>1</sup> When the panel discussion was about to begin, the room was full. However, before Trump’s energy aide could finish introducing the event, a large section of the audience stood and began to sing a rendition of “God Bless the USA”.

So you claim to be an American  
But we see right through your greed;  
It's killing across the world  
for that coal money.  
And we proudly stand up and tell you to  
'Keep it in the ground.'  
The people of the world unite...  
and we are here to say — [repeat]<sup>2</sup>

As the singing crowd was escorted by security, the room was left almost empty, with the media making up most of the remaining attendees.

Many countries have since spoken of the Trump Administration’s presence at the climate talks as if it were a gadfly on an otherwise successful conference. An unofficial United States coalition lead by California Governor Jerry Brown and former New York Mayor Michael Bloomberg attended the conference to show the world that many Americans continue to take serious action in regard to climate change, despite the Trump stance.

Trump rescinded Paris Agreement commitment to fight climate change on an international level, an action that is reflected in United States’ domestic policy. This paper investigates part of the impact that President Donald Trump’s economic and environmental deregulation has within the United States, specifically on California and West Virginia. This paper will argue that Trump’s economic deregulation and environmental defunding will adversely impact California and West Virginia’s ability to maintain clean air and clean water. Following this conclusion, this paper will demonstrate the impact that unclean air and water has on American health and wellbeing and make broad policy recommendations.

The timeline of this research paper will concentrate on the first six months of Donald Trump’s presidency. There will be data

<sup>1</sup> Michael Bloomberg; via Carrington, Damian. “‘Tobacco at a cancer summit’: Trump coal push savaged at climate conference.” *The Guardian*. November 13, 2017.

<sup>1</sup> Keating, Dave. “The White House Tried To Host A Pro-Coal Event At A Climate Summit. It Didn't Go Well.” *Forbes*.

<sup>2</sup> Staff, Common Dreams. “‘You Claim To Be An American, But We See Right Through Your Greed’: A Song of Protest and Then a Walkout at US Event at Climate Summit.”

comparisons of the health implications of Trump's policies during his first six months in office as compared to Presidents Clinton, Bush, and Obama's first six months in office. In the sections, which provide detail on California and West Virginia, the timeline may vary depending on the respective state's environmental history and legislation. When discussing the Obama-era Clean Power Plan, the timeline may vary again, incorporating information from its implementation in 2015 up until the proposed repeal in 2017.

In order to provide a robust understanding of environmental issues and policies in the United States, the following terms, offices, and legislation are defined. The Environmental Protection Agency's (EPA) National Ambient Air Quality Standards (NAAQS), specify the levels of given pollutants, by volume, at which air is considered clean; any level of pollutant above the NAAQS characterizes the air as unclean. The Clean Air Act (CAA), established in 1970 and significantly amended in 1990, requires states to maintain air quality standards for six "criteria" air pollutants. The six pollutants which polluters are held responsible for by the EPA and state environmental protection agencies are particulate matter, ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead. Under the CAA, California is the only state permitted a waiver to apply more stringent emissions standards for these pollutants. West Virginia, and the rest of the United States uses the EPA's NAAQS to define clean air and regulate emissions. The primary Greenhouse Gases (GHGs) are carbon dioxide, methane, nitrous oxide, and fluorinated gases. The CAA does not regulate GHGs. GHGs are not poisonous, but they stay in the atmosphere, warm the earth, and cause climate change. Carbon dioxide made up 82% of global GHG emissions in 2015.<sup>3</sup>

The Clean Water Act (CWA), formalized in 1972, "made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained".<sup>4</sup> The EPA enforces

maximum contaminant levels (MCLs) for numerous pollutants. A body of water is clean if it has not exceeded the MCLs for any tested pollutants. Under the CWA, the EPA monitors each state's plan to maintain water quality standards. All discharges into the country's navigable waters is illegal; the federal government or state governments can grant discharge permits, legalizing pollution.

President George Bush signed the Energy Policy Act (EPAct) into law in December 2007. The act promotes renewable fuels, GHGs research, and nationwide energy efficiency in an effort to make the United States a more energy independent and internationally secure nation. The EPA oversees the EPAct.

The United Nations Framework Convention on Climate Change (UNFCCC) entered into force in 1994, and today has almost universal membership. The United States is a member state. The UNFCCC strives to improve global climate change mitigation and adaptation efforts; it is responsible for many international climate agreements, most recently the Paris Agreement. The Paris Agreement entered into force on November 4, 2016. It aims to strengthen the global response to the threat of climate change by mitigating global temperature rise, and by strengthening the ability of countries to adapt to global climate change. Unlike the previous agreements facilitated by the UNFCCC, the Paris Agreement is a bottom up approach, requiring participating countries to create unique Nationally Determined Contributions (NDCs) based on respective country's environmental and economic situation.

All NDCs are non-binding; the UNFCCC requires that all parties report at least every five years on their emissions reductions and implementations efforts. The United States' intended NDC is to reduce GHG emissions by 26-28% of its 2005 levels by 2025. Reductions in carbon dioxide emissions will contribute to this goal as carbon dioxide emissions made up 82% of global GHG emissions in 2015.<sup>5</sup>

<sup>3</sup> "Overview of Greenhouse Gases." EPA. April 14, 2017.

<sup>4</sup> "Summary of the Clean Water Act." United States Environmental Protection Agency. August 7, 2017.

<sup>5</sup> Op. Cit. "Overview of Greenhouse Gases."

President Barack Obama signed the agreement without submitting it to Congress for approval. Obama used the CAA, CWA, EPA act and the Energy Independence and Security Act as a basis for the United States' contribution. Trump has begun the process of pulling the United States out of the Paris Agreement and rescinding its NDC.

The EPA proposed the Clean Power Plan (CPP) in June 2014. Obama published the CPP in October 2015, although it has never gone into full effect. The plan would assist the United States in upholding its NDC in the Paris Agreement by allowing the EPA to monitor and regulate carbon dioxide emissions as a pollutant under the CAA. The coal industry experienced increasing emissions regulation due to the CPP. The EPA, Scott Pruitt and Trump announced in October 2017 their plans to repeal the CPP and re-energize the coal industry.

The following sources are used to support this paper. Executive Order 13807 demonstrates Trump's economic deregulation policies. In addition, the EPA is the primary government agency charged with creating effective environmental policy. The EPA Fiscal Year 2018 Budget in Brief demonstrates Trump's environmental defunding policies. The Environmental Integrity Project's (EIP) *Environmental Enforcement under Trump* serves as the best source detailing the human life cost associated with actions taken by the Trump administration. EIP is an accomplished, nonpartisan, nonprofit organization that supports effective environmental legislation. The EPA website, CalEPA website, and WV DEP provide environmental quality data, in addition to standard definitions and relevant facts. Relevant studies and comments from the Union of Concerned Scientists, American Lung Association, the Indigenous Environmental Network, Massachusetts Institute of Technology, Sierra Club International, Greenpeace International, the American Journal of Public Health, and Cornell University, provide expert voices regarding the environmental and health issues, which are discussed in this paper. Comments from a wide range of news sources are used in an effort to demonstrate a fair view of the issues discussed, in addition to a glimpse of a local understanding of

local environmental and economic issues. *The Washington Post*, Fox News, Bloomberg, the *Los Angeles Times*, the Atlantic, Forbes, KQED Science, Grist, NBC News, Mercury News, and Business Insider provide a fact-based interpretation of environmental and economic issues. This paper depends on primary sources from official government websites, the Environmental Integrity Project, and expert reports. These sources are brought into discussion through media coverage in addition to the author's own interpretation.

This paper will first discuss how the Trump administration has already begun deregulating economic policy and defunding environmental policy. Next, two cases, California and West Virginia, will be studied to show how both states rely on federal regulations and funding to uphold their respective environmental policies. California and West Virginia show the range of state environmental policies in the United States. California has some of the most comprehensive and involved policies, while West Virginia has some of the most disorganized policies and systems. Looking at the environmental policies in these states will show how Trump's economic deregulation and environmental defunding will harm state environmental efforts to maintain clean air and clean water. The final section of this paper will discuss how the federal government disassociating with both state and international environmental policies will increase state, national and global death rates due to pollution, and damage to the health and wellbeing of global citizens.

Trump's deregulation of economic policy is a transparent effort. Many of Trump's 2016 presidential campaign promises involved reducing the federal government's influence on business functions. As a businessman himself, Trump is critical of the permitting processes and regulations which delay development projects for extended periods of time. Fulfilling campaign promises, in April 2016, "President Trump instructed the Commerce Department to get public feedback about which government regulations are

interfering with domestic manufacturing”.<sup>6</sup> Of the 168 submitted comments, 79 comments targeted regulations on business development from the EPA’s CAA and CWA.<sup>7</sup> The regulations that industry leaders insist are having the most negative impact on economic growth, development, and job creation are those which protect the United States’ clean air and clean water.

During his 2016 campaign, Trump promised to bring back jobs and ignite economic development. This rhetoric was put to action on August 15, 2017, when Trump submitted Executive Order 13807: Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects. The order requires the Office of Management and Budget (OMB) to track and report on the time and cost of environmental reviews. Additionally, project approval for a given infrastructure project will be granted or rejected by a single federal agency in a permitting process called “One Federal Decision”.<sup>8</sup> A major infrastructure project, which can easily take up to 10 years to obtain all the necessary permits for, will now take a maximum of two years. Proponents praise the Order for simplifying the muddled regulatory process and removing obstacles to small and big business development. The time and money that businesses save is an incentive to increase the number and scale of newly contracted projects. Critics worry that Ex. Order 13807 will have a negative impact on the environment and on public health, as developers will be more concerned with reducing time and immediate monetary costs of projects, than with accounting for long term costs to the community and its environment. Another group suggest that the ‘major provisions’ are just repackaged versions of provisions which already exist.<sup>9</sup>

Section 6 of Ex. Order 13807 states that a previous Executive Order, “Executive Order 13690 of January 30, 2015, ‘Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input’, is revoked.<sup>10</sup> This section rescinds the requirement that federal agencies must account for flood risk when building major infrastructure projects. Experts say that major impacts of climate change include flooding as a result of an increase in frequency and intensity of storms, an increase in drought, and sea level rise. This provision allows developers to disregard a major risk to the success of a given infrastructure project, flooding.

This executive order is just one of Trump’s many efforts to deregulate economic policy. In July 2017, Trump “promised to eliminate 80 percent of all federal regulations, arguing that the plethora of rules is harming economic growth and making it harder for companies to create more jobs”.<sup>11</sup> Business owners praise this promise, while critics are concerned with the health and environmental impacts of eliminating necessary regulations. Many experts are skeptical of the feasibility of actually fulfilling this promise, however several executive orders suggest Trump does intend to deregulate economic policy as much as possible. Additional executive orders require “every agency to establish a Regulatory Reform Task Force to evaluate regulations and recommend rules for repeal or modification”, and “an order instructing agencies that whenever they introduce a regulation, they must first abolish two others”.<sup>12</sup> Reflecting industry’s comments on the negative impact of the CAA and CWA on a business’s economic success, Trump has dramatically reduced the EPA’s funding. In order to achieve the economic deregulation goals that Trump has, he must defund the environmental policies which regulate businesses.

<sup>6</sup> Eilperin, Juliet. “EPA emerges as major target after Trump solicits policy advice from industry.” *The Washington Post*, April 16, 2017. Accessed November 14, 2017.

<sup>7</sup> IBID

<sup>8</sup> Executive Order No. 13807, 2017.

<sup>9</sup> Niquette, Mark. “Trump Repackages Council as ‘New’ Infrastructure Plan.” *Bloomberg.com*. June 09, 2017.

<sup>10</sup> Op. Cit. Executive Order No. 13807, 2017.

<sup>11</sup> Eilperin, Juliet, and Damian Paletta. “Trump administration cancels hundreds of Obama-era regulations.” *The Washington Post*. July 20, 2017.

<sup>12</sup> “List of Trump’s executive orders.” *Fox News*. April 28, 2017.

The EPA's Fiscal Year 2018 Budget was submitted at \$5.655 billion, a 31 percent decrease from FY 2017.<sup>13</sup> The budget begins with a narrative insisting the EPA's commitment to improving air quality and ensuring clean and safe water. The rhetoric in the budget brief is proactive and encouraging, but the reality is that many of the programs that support clean air and water have been defunded. The following detailed reductions are compared to FY 2017, but they also show reductions when compared to previous fiscal years. Science and technology funding for Clean Air programs has been reduced by \$30,611.<sup>14</sup> Environmental program and management funding for Clean Air has been reduced by \$129,422.<sup>15</sup> Science and technology funding for Air and Energy research programs has been reduced by \$61,139.<sup>16</sup> Funding for categorical grants for Air and Radiation has been reduced by \$80,213.<sup>17</sup> Funding for state and tribal assistance categorical grants has been reduced by \$481,639;<sup>18</sup> these reductions include a \$68,335 reduction in state and local air quality grants.<sup>19</sup>

In addition to these partially defunded programs, the EPA under the Trump administration has eliminated integral air quality programs. The following is a list of entirely eliminated programs and their respective FY 2017 costs: indoor air radon program, \$3.082M; pollution prevention categorical grant, \$4.765M; pollution prevention program, \$13.140M; reduce risks from indoor air program, \$13.942M; and a targeted airshed grant program, \$20.000M.<sup>20</sup> The explanations for defunding some programs do not provide an explanation for its defunding. For example the indoor air: radon program reads:

“Within this program, the EPA studies the health effects of radon, assesses exposure levels, sets an action level, provides technical assistance, and advises the public of steps they can take to reduce exposure to radon. For over 29 years the EPA's radon program has provided important guidance and significant funding to help states establish their own programs”<sup>21</sup>

Other explanations note that the cuts reflect a refocusing and streamlining of core activities of the agency, and transferring responsibility to state and local entities, or that funding can be obtained through core EPA programs. All the eliminated programs have a targeted environmental issue, which they intend to ameliorate. Elimination of these programs perpetuates the environmental issues they strive to provide solutions for.

The EPA's budget cuts under the Trump administration also defund several programs uphold the integrity of the CWA. Science and technology funding for safe and sustainable water resources research has been reduced by \$85,498.<sup>22</sup> Science and technology funding for water quality research and support grants has been reduced by \$14,073.<sup>23</sup> Science and technology funding for water in regards to ecosystems has been reduced by \$29,582,<sup>24</sup> for water in regards to human health protection has been reduced by \$18,115,<sup>25</sup> and for water in regards to water quality protection has been reduced by \$35,042.<sup>26</sup> Funding for leaking underground storage tanks (LUST) has been defunded by \$44,337.<sup>27</sup> Funding for categorical grants for general water programs has been reduced by \$247,632, and for drinking water by \$33,677.<sup>28</sup>

In addition to these partially defunded programs, several water-focused programs have been entirely eliminated. The following is a list of

<sup>13</sup> United States of America. Environmental Protection Agency. Chief Financial Officer. *FY 2018 Budget in Brief*. May 2017. (1)

<sup>14</sup> IBID (31)

<sup>15</sup> IBID (31)

<sup>16</sup> IBID (32)

<sup>17</sup> IBID (43)

<sup>18</sup> IBID (40)

<sup>19</sup> IBID (39)

<sup>20</sup> IBID (61-65)

<sup>21</sup> IBID (63)

<sup>22</sup> IBID (32)

<sup>23</sup> IBID (32)

<sup>24</sup> IBID (35)

<sup>25</sup> IBID (36)

<sup>26</sup> IBID (36)

<sup>27</sup> IBID (38)

<sup>28</sup> IBID (43)

entirely eliminated programs and their respective FY 2017 costs: categorical grant for nonpoint source pollution, \$164.915M; LUST prevention program, \$25.369M; marine pollution, \$10.161M; national estuary program and costal waterways, \$26.723M; and water quality research and support grants, \$26.800M.<sup>29</sup> To ensure clean and safe water, Trump has reallocated \$17M to credit subsidies under the Water Infrastructure Finance and Innovation (WIFIA) program.<sup>30</sup> This is just a fraction of the billions of dollars that he has cut from the EPA. Additionally, WIFIA can only fund up to 49% of a water infrastructure project, contingent on the project having a dedicated source of revenue.<sup>31</sup> Only projects contracted for the sake of revenue will have access to WIFIA funds; projects cannot be contracted for the sole sake of maintaining clean water access. The EPA is charged with water quality and access projects, as it is not profitable for a non-governmental agency work to improve the public's clean water access.

Although not directly correlated, the program cuts in environmental education and justice, superfund sites, or in researching sustainable and healthy communities and human health risk assessments, will have an impact on the quality of air Americans breathe, and the quality of water Americans drink, wash their dishes in, bathe in, and swim in. In a memo released by the EPA in March 2017, preceding the official EPA budget, the EPA suggests that this is just the beginning of its efforts to reduce its influence on industry, public policy, and environmental protection, as "the agency will continue to seek opportunities to reduce further [its] facility footprint".<sup>32</sup> The memo instructs "the Office of Research and Development to reconfigure and restructure its activities to support the Administration's priority of reducing burdens related to certain regulations".<sup>33</sup> The EPA's research should support the country's access

to a healthy environment, including clean air and clean water. However, Trump's administrative priorities focus on economic prosperity while overlooking environmental hazards.

Environmental research meant to relieve burdens of regulations is not environmental research; it is economic, with economic goals. Trump has kept major campaign promises through public policy implementation.

Although Trump may stray from Republican ideology in some ways, his environmental defunding clearly shows his dedication to states' rights. However, states are not equipped to legislate complex environmental issues that impact all Americans. As a result of the 31% EPA budget cut, many states are experiencing funding shortages for key environmental programs. To supplement the funding deficits for these programs, "fee based funding is encouraged".<sup>34</sup> If states plan to prioritize the clean air and water, from which the entire United States benefits, individual states will have little choice but to increase taxes and fees on their citizens or cut vital clean air and clean water programs. In an interview with the *Washington Post*, former EPA environmental justice official, Mustafa Ali discusses how regulation roll back and budget cuts will devastate the vulnerable communities, which he has worked with over the past two decades.<sup>35</sup> Ali says states generally experience shrinking budgets and lack the capacities of the federal government.<sup>36</sup> Some states, like California, are very involved in environmental protection efforts within their communities, while others, like West Virginia, do not have an effective impact on the environmental efforts within their communities.

Furthermore, Ali insists that citizens of states that do not take environmental protection seriously will be at an undeserving disadvantage.<sup>37</sup> However, even if California succeeds at funding

<sup>29</sup> IBID (61-65)

<sup>30</sup> IBID (54)

<sup>31</sup> "Learn About the WIFIA Program." EPA. November 14, 2017. Accessed November 18, 2017.

<sup>32</sup> United States of America. Environmental Protection Agency. Chief Financial Officer. FY 2018 President's Budget: Major Policy and Final Resource Decisions. By David A. Bloom. (1)

<sup>33</sup> IBID (Section D) (5)

<sup>34</sup> IBID (1)

<sup>35</sup> "Former EPA official: Cuts would target most vulnerable communities." *The Washington Post*.

<sup>36</sup> IBID

<sup>37</sup> IBID

and implementing effective environmental programs within its borders, neither water nor air pays attention to the physical borders of a state. No law can prevent polluted water from flowing into California from a neighboring state or polluted air from circulating into California from a neighboring state. Without nationwide cooperation and support from Trump, California's efforts to maintain clean air and clean water will be in vain. Likewise, West Virginia's polluted air and water is not contained within its state borders. If West Virginia continues to fall short in disorganized efforts to maintain clean air and water, the entire United States is at risk of pollution exposure.

Trump's policies reflect an understanding of clean air and clean water policy as strict state issues. Each state has its unique air and water issues, although the issues are inevitably intertwined. California's Los Angeles Basin is geographically unique in a way that prevents airflow. In 2014, the American Lung Association reported that the LA basin has the worst air quality in the country, with an emphasis on ozone levels and particulate matter.<sup>38</sup> Cars emit both ozone and carbon dioxide; ozone levels are higher when traffic is concentrated. Ozone is harmful to local air quality and is regulated by the CAA. Carbon dioxide is a major GHGs, thus a large contributor to human caused, or anthropogenic, climate change. Carbon Dioxide is not regulated by the CAA or in any other way by the EPA. Because of emissions, especially from automobiles, which limit both local air quality and contribute to climate change, California has become a leader in climate policy. In 2006, California passed the California Global Warming Solutions Act, which enforces the strictest car emissions standards in the United States. Higher temperatures and a higher density of cars on the road increases ozone levels all over the country. The Los Angeles Basin has poor air circulation and restricts ozone and other pollution from escaping. California's communities also suffer poor air quality due to

frequent wildfires. California has developed a comprehensive Environmental Protection Agency (CalEPA) which mediates California's unique environmental issues.

CalEPA was established in 1991, however its six departments were active for several years prior to that. Since its implementation, CalEPA has succeeded largely due to the federal government's support to California's air and water policies. The Air Resources Board (ARB), established in 1967, regulates air quality and GHGs.<sup>39</sup> ARB works with the EPA and local air pollution control districts to regulate emissions from mobile and stationary sources. Because of the geography of the LA Basin, the EPA grants CA an annual waiver, allowing the CalEPA to apply more stringent emissions regulations than the EPA's regulations. President George Bush denied California's waiver for the first time because it requested the ability to limit GHGs as well as the six criteria pollutants under the CAA.<sup>40</sup> During his administration, Obama granted California the waiver to regulate GHGs. ARB continues its commitment to maintaining California's clean air, but it anticipates increasing challenges as a result of climate change and changing federal policies.<sup>41</sup> Without Trump's regulatory and financial support, the air quality in California will suffer.

Likewise, California has a successful history of water regulations due to the federal government's support. California's water history begins in the mid-1800s. Before the Gold Rush in 1849, water on the west coast of the United States remained relatively untouched. However, water was soon diverted for mining uses, and for the everyday uses of new settlers. Miners who did not strike gold began farming the land to support themselves and their families. Farming diverted even more fresh water for irrigation and agriculture uses, and still does today. As California's population grew, so did the demand for water. San Francisco and Los Angeles experienced unchecked industrial growth. Over time, it became clear that California's access to clean water was dwindling. During the Great

<sup>38</sup> "L.A., Central Valley have worst air quality, American Lung Assn. says – LA Times." Los Angeles Times. April 29, 2014.

<sup>39</sup> "California Air Resources Board." History. 2017.

<sup>40</sup> Meyer, Robinson. "The Coming Clean-Air War between Trump and California." The Atlantic. March 06, 2017.

<sup>41</sup> "California Air Resources Board." About. 2017.

Depression, in support of California's stable and clean water source, federal and state investigations began surveying California's rivers. The surveys resulted a state water project, which would reform the 1935 Central Valley Project to become a federal public works project.<sup>42</sup> Without federal assistance, California was unable to fund the project. The Central Valley Project brings fresh clean water from northern California to the rest of the state, and helps maintain the United States' fresh water access. Construction on this project continues today.<sup>43</sup> With a scarce resource like fresh water, California must regulate the allocation for industrial, residential, agricultural, and natural environmental needs.

The CalEPA department, which is charged with regulating fresh water is the State Water Resources Control Board (SWRCB). The SWRCB was created in 1967

“to preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations”.<sup>44</sup>

The SWRCB takes continuous action to prevent human health catastrophes from contaminated water or from limited water access. California has dozens of impaired bodies of water, but is constantly monitoring and reporting on their status and implementing water remediation programs in a transparent manner.<sup>45</sup> Polluters pose a large threat to California's scarce water supply as polluted water cannot be reallocated for municipal residential or agricultural needs, and damages the environment. Despite continual mediation of water quality issues within its communities, the future for CalEPA is full of

challenges like ailing sewer systems, newly constructed wastewater treatment plants, and underground water contamination.

Trump's economic deregulation and environmental defunding enhances these challenges and adversely impacts CA's ability to maintain its clean air and water. As discussed previously, California's LA basin has the worst air quality in the United States. Californians, especially those living in the LA basin, are at a high risk of the health conditions relating to pollution. A former resident reflects on growing up in Los Angeles in the 50s and 60s “where the air pollution was so bad your eyes would burn and it hurt—actually was painful—to take a deep breath”.<sup>46</sup> Air quality has improved since the 60s due to comprehensive funding for research and air quality programs and more stringent emissions regulations. Trump plans to reject California's waiver to apply stricter air quality limits and to reduce fuel economy standards nationwide in the name of reviving the auto industry.<sup>47</sup> The deregulation of emissions standards prevents California from taking the necessary measures to support air quality statewide and especially in the LA basin.

Moreover, the water in California is scarce and several cases of decreased water quality have emerged. Trump's economic deregulation will worsen the state of California's water. The *LA Times* reports that the Division of Oil, Gas and Geothermal allowed oil companies to inject wastewater deep into the ground, contaminating protected aquifers.<sup>48</sup> A carcinogen, benzene, was found in high levels in the water contaminated with oil.<sup>49</sup> One farmer in California dug a well on his property, only to discover that wastewater from oil drilling plants was being disposed very close to

<sup>42</sup> "History of the California State Water Project." California State Water Project-History. January 01, 2007.

<sup>43</sup> IBID

<sup>44</sup> California State Water Resources Control Board. "California State Water Resources Control Board." SWRCB.gov. 2017.

<sup>45</sup> California, State Of. "Impaired Water Bodies." State Water Resources Control Board. 2010.

<sup>46</sup> Readers, Guardian, and Francesca Perry. "'You can taste it in the air': your stories of life in polluted cities."

<sup>47</sup> Muller, Joann. "Why Automakers Don't Need Trump To Ease Fuel Economy Regulations." Forbes. March 24, 2017.

<sup>48</sup> Cart, Julie. "Agencies admit failing to protect water sources from fuel pollution." Los Angeles Times. March 10, 2015.

<sup>49</sup> IBID

his property, at a similar depth to his well.<sup>50</sup> Additionally, many farms in California use fertilizers on their property. Rain and run off allows toxic fertilizers to leak into water sources. In a study by UC Davis, lead scientist believes that “the water table in the area is so polluted... that [he] doesn’t think cleaning it up... would be practical”.<sup>51</sup> Carcinogens were found in the Central Valley of California in July 2017.<sup>52</sup> State and local officials are discussing the possibility of first ever tax on drinking water in California in order to fund clean water projects.<sup>53</sup> Despite relatively clean water, California is still in need of federal support to maintain its clean air and water.

Additionally, Trump’s plans to continue to strip business regulations will allow industry to abuse the United States’ clean air and clean water supply. Streamlining infrastructure projects, as Trump has ordered, allows businesses to focus on economic growth with little regard for the environmental and health impacts of their functions. CalEPA has a comprehensive plan focused on addressing state environmental issues but still lacks funding; the Legislative Analyst’s Office recommends increasing fees in order to cover the deficit.<sup>54</sup> Most of the funding for these programs already comes from fee related revenue, while the federal government contributes only a fraction of the funds for CalEPA’s programs. A reduction in federal funds puts an extra burden on citizens who deserve clean air and clean water. California has some of the most comprehensive legislation focused on maintaining clean air and water and preventing climate change. However, without support from the federal government, California’s programs will lack funding, and run

the risk of water and air contamination from unregulated businesses. Ultimately, California will fail to maintain its clean air and clean water.

West Virginia is the second largest producer of coal in the United States, after Wyoming. In 2015, West Virginia produced 95.6 million tons of coal.<sup>55</sup> In West Virginia, many communities rely heavily on coal power plants for electricity and employment. These communities’ economies suffered the most from Obama’s Clean Power Plan. Many West Virginians, including the West Virginia Coal Association,<sup>56</sup> supported Trump in the 2016 election as he promised to revive the coal industry. Although he claims to make decisions in the interest of coal miners and their families, Trump’s policies on coal are perpetuating a dying industry riddled with health hazards.

In 1810, West Virginia’s first coal mine opened as an unregulated power plant. Since 1810, regulations on coal power plants have continuously increased. In 2015, the CPP placed heavy regulations on coal power plants, reducing their contributions to air and water pollution. Burning coal is the source of several pollutants including, carbon dioxide, sulfur dioxide, nitrogen oxides, particulate matter, lead, carbon monoxide, hydrocarbons, and arsenic.<sup>57</sup> In 2011, utility coal plants in the United States emitted 1.7 billion tons of carbon dioxide.<sup>58</sup> Carbon dioxide is not regulated by the CAA. Depending on regulations, a single coal plant emits between 7,000 and 14,000 tons of sulfur dioxide annually.<sup>59</sup> Sulfur dioxide causes dangerous acid rain and is regulated by the CAA. Depending on regulations, a single coal plant emits between 13,300 and 10,300 tons of

<sup>50</sup> Science, Lauren Sommer KQED. "How Much Drinking Water Has California Lost to Oil Industry Waste? No One Knows." KQED Science. August 3, 2017.

<sup>51</sup> Greenaway, Twilight. "Tapped out: Water in California’s farm country is dangerously polluted." Grist. March 13, 2012.

<sup>52</sup> Farrow, Ronan, and Rich McHugh. "Cancer-Causing Chemical TCP Plagues California Drinking Water." NBCNews.com. July 18, 2017.

<sup>53</sup> Murphy, Katy. "First-ever water tax proposed to tackle unsafe drinking water in California." The Mercury News. August 24, 2017.

<sup>54</sup> United States of America. CalEPA. Legislative Analyst’s Office. *Lao.ca.gov*. By Mac Taylor. February 2016.

<sup>55</sup> "U.S. Energy Information Administration - EIA - Independent Statistics and Analysis." Which states produce the most coal? - FAQ - U.S. Energy Information Administration (EIA).

<sup>56</sup> Hamilton, Chris. "Trump Delivers for West Virginia Coal." West Virginia Coal Association. July 19, 2017.

<sup>57</sup> "Coal power: air pollution." Union of Concerned Scientists.

<sup>58</sup> IBID

<sup>59</sup> IBID

Nitrogen oxides annually.<sup>60</sup> Nitrogen oxide is called ozone, and is recognizable as smog. The CAA regulates ozone. A coal power plant with proper particulate matter controls can prevent all particulate matter pollution. Without controls, a single plant can emit up to 500 tons particulate matter each year.<sup>61</sup> The CAA regulates particulate matter. Although burning coal also emits lead, carbon monoxide, hydrocarbons, and arsenic, which are all harmful to human health and to the environment, the CAA does not regulate any of these pollutants.

Even though coal power plants burn millions of tons of coal annually, there is limited air quality data from West Virginia's Division of Air Quality (WVDAQ). The 2015 Air Quality Report for West Virginia presents incomplete data; there are air-monitoring stations in less than half of the counties in West Virginia.<sup>62</sup> For the thirteen counties with air monitoring stations, the Air Quality Index reported inconsistent and incomplete data; different pollutants were tested at each station, and some stations tested for pollutants less frequently than other stations tested for pollutants.<sup>63</sup> West Virginia relies on the EPA's air quality data in order to create annual air quality reports.<sup>64</sup> Even the American Lung Association's 2017 State of the Air report has incomplete data for West Virginia.<sup>65</sup> West Virginia has limited monitoring information on the impact which burning coal has on local air quality. However, several studies have shown the correlation between burning coal and poor health. One study published in the American Journal of Public Health investigates the relationship between health status and a person's residential proximity to coal mining in West Virginia. The study's results show that "As coal production increased, health status worsened, and rates of cardiopulmonary disease, lung disease, cardiovascular disease, diabetes, and kidney disease increased. Within larger disease

categories, specific types of disease associated with coal production included chronic obstructive pulmonary disease (COPD), black lung disease, and hypertension".<sup>66</sup>

West Virginia has unique environmental issues, which deserve the same attention that California's environmental issues receive. However, West Virginia does not have a history of progressively protecting the state's air and water from pollutants. West Virginia would benefit from support similar to what California has received from the federal government in the past.

West Virginia's Department of Environmental Protection (DEP) was established in 1992. Today, the DEP has 21 offices, as compared to CalEPA's seven departments. WV DEP administrative structure continues to change today. The Division of Air Quality (DAQ) monitors air pollution and enforces pollutant limits from industrial and commercial facilities according to the EPA's NAAQS under the CAA. The DAQ responds to citizen complaints regarding air pollution issues. However, "quite often, notification is too late to allow an inspector to observe and document the alleged violation, or inspectors are not immediately available due to the fact that they are already involved in another compliance and/or enforcement related issue".<sup>67</sup> The WV DEP is not able to properly observe and document air quality violations as residents report them. Additionally, the DAQ issues and enforces polluting permits. Despite the myriad of harmful pollutants from coal-powered plants, the DAQ only monitors and regulates the six criteria pollutants under the CAA. In August 2000, WV DEP attempted to create an emissions trading program but the EPA has not approved it. Without approval from the EPA, the

<sup>60</sup> IBID

<sup>61</sup> IBID

<sup>62</sup> *Air Quality 2015 Annual Report*. Report. Department of Environmental Protection. 2015. (pg. 7)

<sup>63</sup> *Air Quality 2015 Annual Report*. Report. Department of Environmental Protection. 2015. (pg. 38)

<sup>64</sup> "Air Monitoring Data." Division of Air Quality.

<sup>65</sup> "How healthy is the air you breathe?" American Lung Association.

<sup>66</sup> Hendryx, Michael, PhD, and Melissa M. Ahern, PhD. "Relations between Health Indicators and Residential Proximity to Coal Mining in West Virginia."

<sup>67</sup> "Compliance and Enforcement." Division of Air Quality.

program has made little to no impact.<sup>68</sup> A separate office within the WV DEP, the Air Quality Board, hears citizen appeals regarding the DAQ's permit issuance or denial, or the permit conditions or enforcement decisions.

Due to inevitable contact and intermingling of air and water, air pollution is related to water pollution. This is especially true in West Virginia, as coal ash in the air becomes coal slurry when it comes in contact with water. Coal slurry cannot be cleaned or remediated; it flows through the water cycle and systems spreading contaminants as it goes. In 2010, "More than 40% of West Virginia's rivers [were] too polluted to pass simple water quality safety thresholds... they [were] too polluted to be safely used for drinking water or recreation, or to support healthy aquatic life".<sup>69</sup> This fact alone is concerning, however, "the state has failed to collect sufficient data to determine the health of 36% of the streams in the state".<sup>70</sup> That is, 76% of the rivers in West Virginia are either impaired or untested and only 24% of the rivers are considered clean.

In November 2016, a US EPA water quality report notes the source of water pollution for the myriad of contaminated streams in West Virginia. Most of the sources are marked as 'unknown'. Of the sources which are known, the sources are all labeled as 'mining'.<sup>71</sup> The story of contaminated water continues. In 2014, four years after the previous study of impaired rivers, a chemical spill into the Elk River prompted the Governor of West Virginia to declare a state of emergency while 300,000 residents went several days without water. Residents and local governments are still grappling with the health, environmental, and economic impacts of this spill today. Moreover, water as a resource is becoming increasingly scarce, and "a typical coal plant withdraws enough water to fill an Olympic-sized swimming pool every three and a half minutes".<sup>72</sup> Although West Virginia has more water quality data than it has air quality data,

compared to California, in both cases there is insufficient data available to make effective clean air and clean water legislation.

The DEP's Department of Water and Waste Management's mission sounds productive and similar to CalEPA's sister department, but it has had limited success. The Department of Water and Waste Management cannot be effective in protecting watersheds given the limited amount of data available on what the water should be protected from. Arguably, because the available water quality information sources most of the known pollution from mining, the WV DEP should focus its water quality efforts on reducing pollutants from coal power plants. In May 2017, West Virginia committed to cleaning up remaining pollution from out of use coalmines.<sup>73</sup> It is too early to measure the impacts of this commitment. Moreover, West Virginian efforts to stymie pollution from in use coal power plants are rare.

West Virginia has not dedicated its resources to properly evaluate the state of its air and water. The EPA could provide assistance, however Pollution Prevention programs, Lead programs, Water Quality and Research grants, and Air, Climate and Energy research has been defunded. These programs had the potential to assist West Virginia in better understanding its air and water quality. Without support from the federal government, much of the burden in water and air quality testing, monitoring, and researching will be left to West Virginia. Reducing federal support will not hold states like West Virginia more accountable, but rather, they will have fewer resources and encouragement to organize and administer clean air and water programs. With Trump's plans to revive the coal industry, the future for West Virginia's clean air and clean water is bleak, threatening the health and wellbeing of all United States residents.

<sup>68</sup> "45CSR28 Program Evaluation 2009." Division of Air Quality.

<sup>69</sup> "West Virginia's streams are in trouble." Indigenous Environmental Network.

<sup>70</sup> IBID

<sup>71</sup> United States of America. US EPA. *Final WV2014 303(d) Transmittal Package*. November 23, 2016.

<sup>72</sup> "Coal impacts on water." Greenpeace International. March 21, 2014.

<sup>73</sup> "West Virginia to Treat Water Pollution at Forfeited Coal Mines." Sierra Club National. May 11, 2017.

As noted previously, air and water cannot be constrained to state boundaries. The poor air and water quality in West Virginia should be of concern to the whole United States. The Ohio River flows through West Virginia along its northern state line. There are several impaired streams which flow in and around the West Virginian portion of the Ohio River. The Ohio River continues to flow across the United States and becomes a major tributary to the Mississippi River. Although each state has unique air and water issues, the federal government should be directly involved in ameliorating these issues as they have a national impact.

Without Trump's regulatory and financial support, California and West Virginia will not be able to effectively maintain clean air and clean water. This inability is not specific to California and West Virginia, as Trump's policies will cause increases in nationwide air and water pollution. American citizens in all states will be at a higher risk of premature death and be burdened with increased health conditions. The Environmental Integrity Project produced a report called "Environmental Enforcement under Trump", which details the impacts of Trump's environmental enforcement in comparison to previous presidents' enforcements during their respective first six months in office. During the first six months of the Trump administration, "the Justice Department collected 60 percent less in civil penalties than polluters had paid on average by this time in the first year of President Barack Obama, George W. Bush, and Bill Clinton".<sup>74</sup> Under Trump, there were fewer cases which resulted in civil penalties, and those that did were smaller, "requiring much less spending on cleanup, and resulting in fewer measurable reductions in pollutants which end up in our air or water".<sup>75</sup> Trump has failed to hold violators of environmental regulations properly accountable. This trend continues through the rest of the report.

With a total of \$197 million, eleven cases required injunctive relief under President Trump. This compares to \$710 million under Bush and \$1.201 billion under Obama.<sup>76</sup> Injunctive relief is "how much violators will spend to install and maintain the control equipment needed to clean up pollution and comply with environmental standards".<sup>77</sup> Under Trump, violators were held accountable for only a fraction of the damage that they were held accountable for under previous presidents. Lacking accountability is likely to increase without EPA funding available for compliance and monitoring programs.

In addition to civil penalties and injunctive relief, certain cases specifically assist in annual pollution reductions, with new regulations and rules. Under Bush, four cases were heard, creating new industry rules which reduced emissions by 68,620 tons of sulfur dioxide, 28,239 tons of nitrogen oxide, and 1,929 tons of particulate matter, preventing up to 1,375 premature deaths.<sup>78</sup> Under Obama, eight cases were heard, reducing emissions by 39,260 tons of sulfur dioxide, 9,378 tons of nitrogen oxide, and 1,918 tons of particulate matter, preventing up to 516 premature deaths.<sup>79</sup> Under Trump, five cases were heard, reducing emissions by 627 tons of sulfur dioxide, 4,331 tons of nitrogen oxide, and 264 tons of particulate matter, preventing up to 51 deaths.<sup>80</sup> The Trump administration is reducing intensity and frequency of pollution cases heard by the Justice Department. Violators are not held accountable for their violations, which damages the integrity and effectiveness of the CAA and CWA. Decreasing fines paid by violators of environmental regulations like the CAA and CWA is effective in allowing businesses to thrive economically. However, not holding violators accountable for all the damage they inflict on residents, in terms of deaths and related health concerns, does not eliminate the cost of pollution, it only transfers it to human health costs.

In a study published in 2013 by MIT, researchers concluded that air pollution causes

<sup>74</sup> *Environmental Enforcement Under Trump*. Report. Environmental Integrity Project. August 11, 2017. (1)

<sup>75</sup> IBID (1)

<sup>76</sup> IBID (1)

<sup>77</sup> IBID (1)

<sup>78</sup> IBID (2)

<sup>79</sup> IBID (2)

<sup>80</sup> IBID (2)

approximately 200,000 deaths in the United States annually.<sup>81</sup> The study “tracked ground-level emissions from sources such as industrial smokestacks, vehicle tailpipes, marine and rail operations, and commercial and residential heating throughout the United States”.<sup>82</sup> The study showed that “emissions from road transportation are the most significant contributor, causing 53,000 premature deaths, followed closely by power generation, with 52,000”.<sup>83</sup> Despite the thousands of lives at risk, Trump still plans to revitalize the auto industry and the coal power industry in the name of economic development and job creation.

Moreover, the American Lung Association’s 2017 “State of the Air” report details the health conditions, which result from air pollution. These health conditions are costly to individuals and the health industry, lower a person’s standard of living, and can result in death. Ozone pollution, or smog, is harmful to the health of individuals exposed. As concluded by the EPA, serious health threats posed by ozone exposure include: worsened asthma, worsened COPD, inflammation, premature death from short or long term exposure, heart attacks, strokes, heart disease, congestive heart failure, harm to the central nervous system, and potential reproductive and developmental harm.<sup>84</sup> Trump’s deregulation and revival of the auto and coal industry will continue this trend and intensify numbers of people impacted by the associate health hazards.

Inhaling particulate matter also causes increased health problems. Short term exposure can cause death from the following: respiratory and cardiovascular causes, strokes, and increased mortality in infants and children, increased numbers of heart attacks. This is true especially among the elderly and in people with prior heart conditions. It can also cause inflammation of lung tissue in otherwise healthy young adults, increased hospitalization for strokes, and congestive heart failure, increased emergency room visits from

patients suffering acute respiratory ailments. Further, this can cause increased hospitalization for asthma among children, and increased severity of asthma attacks in children. Year round exposure can cause side effects, including: increased hospitalization for asthma attacks for children living near roads with heavy truck or trailer traffic, slowed lung function growth in children and teenagers, development of asthma in children up to age 14, significant damage to the small airways of the lungs, increased risk of death from cardiovascular diseases, and increased risk of lower birth weight and infant mortality.<sup>85</sup> Particulate matter and ozone are a top concern for the American Lung association as studies show strong connections between poor air quality and type two diabetes, women over the age of 50 dying from heart disease, mental health concerns, and lung cancer.<sup>86</sup> Despite the slew of health concerns relating to pollution, Trump’s policies maintain a focus on economic growth.

The water catastrophe in Flint, Michigan is just a glimpse into a larger national water crisis. Several news outlets suggest that America is headed toward a water crisis in terms of scarcity and quality. One source estimates that 40 out of 50 of the United States will experience water shortage within the next 10 years, if they have not already.<sup>87</sup> Additionally, rising ocean levels are contaminating fresh water sources; some states have pursued desalination efforts, but these efforts are expensive and resource intensive. Estimates on how many people in the United States are drinking unclean drinking water range from the thousands to the millions, depending on the source and study. Some warn citizens to prepare for decreased quality and access. However, this paper suggests that the United States is not anticipating a water crisis, but may unknowingly be in the midst of one. Trump should back state environmental policies to support clean air and water and prevent the premature deaths of thousands of Americans.

<sup>81</sup> Chu, Jennifer. "Air pollution causes 200,000 early deaths each year in the US, study finds."

<sup>82</sup> IBID

<sup>83</sup> IBID

<sup>84</sup> State of the Air 2017.Report. American Lung Association National Office. 2017. (35)

<sup>86</sup> IBID.

<sup>87</sup> IBID.

<sup>88</sup> IBID.

Death as a result of air and water pollution is not specific to the United States. A Cornell survey found that “water, air and soil pollution causes 40 percent of deaths worldwide”.<sup>88</sup> In India, one study estimates that outdoor air pollution causes about half a million premature deaths each year and costs the country hundreds of billions of dollars.<sup>89</sup> Legislation in the United States, like the CPP, both reduces air and water pollution, and mitigates climate change. Likewise, efforts to properly address India’s air quality crisis will also address climate change. Only recently surpassed by China, the United States is the second largest emitter of GHGs. Business Insider reports that “the US is the only developed country on a list of nations with the highest pollution related deaths”.<sup>90</sup> As the United States is a major contributor to global climate change and health hazardous pollution, it should be part of the clean-up efforts. The entire world is working to combat polluted air and water in order to protect global citizen’s health and wellbeing. Although the Paris Climate agreement is meant to combat climate change, requiring countries to declare its own respective Nationally Determined Contributions (NDC) allows countries to address its unique environmental issues while also helping the global community mitigate climate change. Rather than pulling out of the agreement, the United States should submit a NDC which supports its state’s environmental policies and maintains the country’s clean air and clean water.

Above all, Trump should restore the EPA’s budget to allow the agency to engage in a comprehensive assessment of each state’s clean air and clean water, and provide assistance when the air or water is impaired. This will restore the integrity of the CAA and CWA, and provide each state with the information necessary to develop its economy, support clean air and clean water, and support the health of its residents. Trump should facilitate an energy industry transition; truly

supporting coal miners by employing them to safely dismantle coal mines, then training and employing them in the renewable energy industry. Trump should truly revive the auto industry by providing subsidies for affordable electric car production, with low or no harmful emissions. Trump should use his proposed \$1 trillion-dollar infrastructure bill to support states’ unique waterworks and roadway construction needs. The bill should promote waterworks which provide environmentally and health conscious long-term water solutions. The bill should also work to improve travel efficiency, while public transportation improvements can reduce the number of cars on the road.

These policies would showcase the United States as a great nation, where clean air and clean water is a human right. These policies would also situate the United States as a leader in the global efforts to mitigate climate change. By pulling out of the Paris climate agreement, the United States sends a message to the rest of the world. The Trump Administration is not committed to the health of Americans, or that of global citizens; it is committed to a narrow-minded way of achieving economic prosperity. Engaging in the Paris Climate agreement by committing to a NDC that supports states and local efforts to maintain clean air and water will save lives within United States borders and beyond.

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<sup>88</sup> Lang, Susan S. "Cornell Chronicle." Water, air and soil pollution causes 40 percent of deaths worldwide, Cornell research survey finds. August 2, 2007.

<sup>89</sup> Harvey, Chelsea. "Air pollution in India is so bad that it kills half a million people every year." The Washington Post. May 11, 2016.

<sup>90</sup> Press, Brennan Weiss and Associated. "The US is the only developed country on a list of nations with the highest pollution-related deaths - here are the top 10."

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