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Clearing the Air: Addressing Utah's Pollution Crisis Through Legal Reform and Environmental Justice

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Clearing the Air: Addressing Utah's Pollution Crisis Through Legal Reform and Environmental Justice

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I. Introduction

Structural racism and economic hardship are making it more likely for Black and Latino residents to live in polluted communities.[3] Chicago's south side is one community that is notorious for the adverse health effects that its residents suffer from. Cheryl Johnson and Peggy Salazar, vocal advocates residents of this very community recount the family members and friends who have developed asthma citing the presence of landfills, hazardous waste sites, and leaking underground storage tanks in the area. Oscar Sanchez, the co-founder of the Southeast Youth Alliance (SYA), one of south side's community advocacy organizations mentions that pollutive substances are found in the area because zoning allows for that to

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3 City of Chicago Department of Public Health, "Air Quality and Health Report" (City of Chicago, 2022), https://www.chicago.gov/content/dam/city/depts/cdph/statistics_and_reports/Air_Quality_Health_doc_FINALv4.pdf.

happen.[4] The SYA has also been critical of Chicago's Department of Public Health (CDPH) and its unwillingness to head community input and environmental complaints, ultimately leaving many neighborhoods to be under-resourced.[5] Many other areas of the United States share a similar fate to Chicago's south side. As of January 2023, Utah residents are breathing some of the nation's worst air. Brian Moench, founder of the Utah Physicians for a Healthy Environment organization, declared the air quality in Utah as a public health emergency.[6] While community organizing is an essential part of driving change, the development of legislation is also a key ingredient in combating air pollution.

II. Background

The first legal attempt in the United States involving air pollution control was initially passed in 1955. Known as the Air Pollution Control Act, the main objective was to federally fund and direct research into air pollution. In 1963 amendments were made to the Clean Air Act (CAA) leading to the first federal legislation for air pollution control to establish a program for research about techniques for monitoring and controlling air pollution. Then, in 1967 the Air Quality Act was enacted. This act expanded federal government activities. Enforcement proceedings were initiated in areas subject to interstate air pollution transport, extensive ambient monitoring, stationary source inspections, studies on air pollutant emission inventories, monitoring, and control techniques to minimize air pollution. In the CAA of 1970, the National Ambient Air Quality Standards (NAQS) were established in the state's implementation plans. New Source Performance Standards (NSPS) were also

4 Environmental justice in Chicago: It's been one battle after another Be a Force for the Future, https://www.nrdc.org/stories/environmental-justice-chicago-its-been-one-battle-after-another (Last visited Jan 30, 2024)

5 Build a community where all youth are safe, Strong & valued SYA, https://southeastyouthalliance.org/ (Last visited Jan 30, 2024)

6 Paul Foy, Sickening fog settles over Salt Lake City area, USA TODAY, Jan. 13, 2023

established to regulate emissions, and enforcement authority was increased. Amendments were added to the CAA of 1970 in 1977 for provisions to the prevention of significant deterioration. More amendments were added in 1990 such as the authorization for programs for Acid Deposition Control, a program for 189 toxic pollutants control, permit program requirements, modifications to NAQS, expanding enforcement authority, and programs to phase the use of chemicals that deplete the ozone layer.[7]

The CAA is a federal law that regulates air emissions from stationary mobile sources. Under the CAA, the Environmental Protection Agency (EPA), a federal agency, may establish national ambient air quality standards to regulate public health and welfare and emissions of hazardous pollutants. CAA focuses on six primary pollutants: Carbon monoxide (CO)[8], lead (PB)[9], particulate matter (PM)[10], ozone (0_3)[11], nitrogen dioxide (NO_2)[12], and sulfur dioxide (SO_2).[13] The

7 Evolution of the clean air act | US EPA United States Environmental Protection Agency, https://www.epa.gov/clean-air-act-overview/evolution-clean-air-act (last visited Oct 25, 2023)

8 Colorless, odorless, flammable gas formed by incomplete combustion of carbon.

9 Lead is a naturally occurring element that is toxic to humans, causing health effects.

10 Particulate matter, or particle pollution are solid particles that can be found in the air. For example, dust, dirt, soot, and smoke are inhalable particles that can be seen with the naked eye.

11 Ozone is a highly reactive gas that is both natural and man-made. The tropospheric or ground level zone is where the air we breathe is. This ozone concentration occurs everywhere, not just in highly urbanized areas.

12 This is a highly reactive gas that gets in the air from the burning of fossil fuels—emissions from cars, trucks, buses, power-plants, and off-road equipment.

13 Sulfur Dioxide is of great concern because this gas is an indicator for a larger group of gaseous sulfur oxides which are found in the atmosphere. This gas makes its way into the atmosphere through burning of fossil fuels.

EPA sets NAQS for these criteria pollutants that harm public health and the environment.[14]

CAA was passed in 1963 and amended to address growing problems such as acid rain, ozone depletion, and toxic air pollution. Congress passed the CAA to "protect and enhance the quality of the Nation's air resources to promote the public health and welfare and the productive capacity of the nation."[15]As a means to achieving that purpose, sections 111[16]and 112[17] direct the EPA to set national emissions standards for new and existing stationary sources.[18] Section 111 highlights new source performance standards, having nationally uniform standards, applying to all sources nationwide. Section 112 underscores hazardous air pollutants released during any operations and the control technology necessary to reduce the maximum degree of emissions.[19]

Any interested party has the right to file a petition for rulemaking. The Administrative Procedure Act (APA) provides these petitions so the public can express desire and concern for new regulations or

14 Criteria air pollutants | US EPA United States En

15 Research guides: Clean air act legal research: Overview - Clean Air Act Legal Research - Research Guides at Elisabeth Haub School of Law, Pace University, https://libraryguides.law.pace.edu/cleanairact#:~:text=The%20CAA%20was%20intended%20%22to,actions%20to%20prevent%20air%20pollution. (last visited Jan 30, 2024)

16 United States Code, 2013 Edition Title 42 - The Public Health and Welfare Chapter 85 - Air pollution prevention and control subchapter I - Programs and Activities Part A - Air Quality and Emission Limitations Sec. 7412 - Hazardous air pollutants From the U.S. Government Publishing Office, www. gpo.gov

17 *Id.*

18 42 - The Public Health and Welfare (2013)

19 Clean Air Act Overview Environmental compliance information for energy extraction, https://www.eciee.org/caa-gt.php#:~:text=Non%2Dmajor%20sources%20subject%20to,program%20when%20issuing%20the%20standards. (Last visited Jan 30, 2024)

modifications to regulations in effect.[20] The CAA, like many federal statutes, relies upon the cooperation of state environmental agencies for its enforcement. When a state does not cooperate with the Clean Air Act, the federal government is obligated to step in to enforce the Act and impose potential sanctions on states and infracts.[21] The Act calls for the removal or decrease of funds granted to states that do not cooperate with this federal environmental statute.[22]

As the cornerstone of environmental legislation in the United States, CAA has brought significant benefits to Utah residents. By mitigating pollution and reducing harmful emissions, this legislation has played a vital role in safeguarding the health of Utahns. Through that legislation, the prevalence of pollution-related health problems has been substantially reduced, such as respiratory diseases, and has contributed to a decline in premature deaths. A notable beneficiary of these health improvements is the state's youth, as cleaner air ensures a healthier environment for them to grow and thrive. Beyond its positive health effects, the CAA has also boosted productivity in Utah's workforce, leading to a more robust and efficient economy. By prioritizing air quality, this legislation has created a healthier and more productive population, which, in turn, bolsters the state's economic growth.[23]

As addressed previously, ethnic and racial communities disproportionately experience the harmful effects of air pollution. In a study conducted by the University of Utah College of Engineering, it

20 How to file a petition for rulemaking: Center for Effective Government How to File a Petition for Rulemaking | Center for Effective Government, https://www.foreffectivegov.org/node/4061#:~:text=The%20APA%20provides%20for%20petitions,to%20regulations%20already%20in%20effect. (Last visited Jan 30, 2024)

21 Massachusetts v. Envtl. Prot. Agency, 549 U.S. 497 (2007); Sierra Club v. Costle, 657 F.2d 298 (D.C. Cir. 1981); Alabama Power Co. v. Costle, 636 F.2d 323 (D.C. Cir. 1979); Natural Res. Def. Council v. EPA, 863 F.2d 1420 (9th Cir. 1988); United States v. Ohio, 535 F. Supp. 98 (S.D. Ohio 1982).

22 Is the Clean Air Act Unconstitutional? Coercion, Cooperative Federalism and Conditional Spending After NFIB v. Seblius

23 The Clean Air Act: Improving public health at an affordable cost

was found that schools serving low-income students were disproportionately exposed to worse air quality during relatively clean, moderate inversion and major inversion days.[24] Similar disparities are observed among homeless populations, significantly impacted by air pollution. Nine out of ten homeless individuals have sought medical attention due to the effects of contaminated air.[25] Understanding the demographics affected by air pollution shows that NAQS are not being met, underscoring the urgent need for targeted actions to protect vulnerable communities.

According to expert evaluations, air pollution in Utah results in an annual toll of 2,480 to 8,000 premature deaths and diminishes the median life expectancy by 1.1 to 3.6 years. The economic ramifications of air pollution in Utah are staggering, ranging from $0.75 to $3.3 billion annually, accounting for up to 1.7% of the state's gross domestic product.[26] The CAA, intended to protect human health and the environment from pollutants, has not effectively addressed the needs of low-income, racial, and ethnic communities. These communities continue to bear a disproportionate burden of air pollution, showing a significant gap in the Act's implementation. To rectify these inequalities, this article advocates for a more aggressive approach by the Utah state government. Specifically, it calls for not only the full enforcement of federal requirements but also the adoption of standards that are more stringent than those set by the Environmental Protection Agency (EPA). Such measures are crucial to ensuring that the health and environmental injustices facing these vulnerable communities are adequately addressed.

24 Social disparities in Air Pollution The John and Marcia Price College of Engineering at the University of Utah, https://www.price.utah.edu/2020/05/18/social-disparities-in-air-pollution (Last visited Oct 24, 2023)

25 Angelina L. DeMarco et al., Air Pollution-Related Health Impacts on Individuals Experiencing Homelessness: Environmental Justice and Health Vulnerability in Salt Lake County, Utah, 17 Int'l J. Envtl. Res. & Pub. Health 8413 (2020).

26 Air pollution costs Utahns billions annually and shortens life expectancy by two years

A. Limitations to the Clean Air Act

Due to the limited ability of the CAA to address air pollution hotspots and climate change, this act is becoming weaker. Essentially, a federal standard of maximum levels of air pollutants in the outdoor air has been made. Each state must develop plans that outline how the federal standards will be met. These are called State Implementation Plans (SIP). This regulation requires federal approval for SIPs to regulate air pollutants; however, regulation is very stringent on a large scale, and not on a smaller regional scale.[27] Stringent on a larger scale shows that SIPs are required of the states to meet NAQS and other standards of the CAA.

> 1. States are given the responsibility due to the nuance and complexity of the way different regions across the countries are being affected by pollutants. All plans are approved by the federal government once States have created something that is going to reduce pollutants in the state. States are given financial assistance if needed to combat this issue and different resources to be successful. Federal EPA revises NAQS and SIPs under the CAA periodically to make sure states are still meeting the standards. However, regulation is not stringent on a smaller regional scale, because States are not always keeping up with regulation and federal standards, they are falling short.
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> 2. Health and the environment continue to be harmed because of regulation issues, despite many efforts to meet NAQS. This is due to distance travel and industry facilities. There are continuous lawsuits against major polluters and regulatory challenges, but stricter laws are yet to be enforced.

Another limitation focuses on the Utah Physicians for Healthy Environment (UPHE), a non-profit organization that targets pollution-related reasons that affect Utah residents' health. Diesel Power Gear, LLC, was found to be tampering with emission control devices,

27 Limitations of the Clean Air Act Harvard Undergraduate Law Review

violating the CAA. This tampering contributed to air pollution and environmental problems, known to harm the resident's health.[28] The negative health effects can be generalized and will be discussed further in later sections. UPHE was able to successfully challenge this company resulting in Diesel Power Gear, LLC, paying $*760,000* in civil penalties, having to install defeat control devices, and having to sell inoperable vehicles due to emission control systems.[29] The environment in Utah does not allow for further addition of harmful pollutants. UPHE v. Diesel Power Gear LLC is one example of many where regulation was not stringent enough concerning the violation committed by this company. However, the emission control devices were finally installed.

Similarly, Tap Worldwide LLC (TAP) is a business that distributes automotive vehicle parts. UPHE brought an action against TAP for allegedly selling and installing aftermath defeat parts, vehicle parts that bypass defeats, and/or contributing to inoperative emission control devices in motor vehicles. UPHE brought the suit under the CAA and the Utah SIP due to the practice of selling and installing these parts. However, TAP filed to dismiss the case due to the CAA emission standard being unequivocally defined and setting a legal limit on the release of pollutants, leaving the definition narrow.

The motion to dismiss the case was denied, allowing UPHE to seek civil penalties and other relief due to these sales.[30] The entire reasoning behind TAP wanting to dismiss the case was because UPHE as an organization is not authorized under the CAA to enforce anti-tampering prohibitions. However, the CAA allows any person to commence a civil action against violations of emissions standards, or a person who leads modifications of major emitting

28 Utah Physicians for a Healthy Env't v. Diesel Power Gear, LLC, 21 F.4th 1229 (10th Cir. 2021)

29 Utah Physicians for a Healthy Env't v. Diesel Power Gear, LLC, 2:17-cv-00032-RJS (D. Utah Jul. 6, 2022)

30 *UTAH PHYSICIANS FOR HEALTHY ENVIRONMENT INC v. TAP WORLDWIDE LLC (2022)*,

facilities without permits. Power then resides in the courts to enforce emission standards.[31]

In this case, the definition of an "emission standard or limitation" was crucial to the case due to the power to bring the case resides in the violation of emission standards. TAP was almost successful in dismissing this case, a case that should not have even occurred due to the legality of tampering with these types of defeated parts. EPA should extend standards to allow citizens to carry lawsuits like this and not stall and attempt to dismiss cases.

Additionally, long-distance travel is a large contributor to air pollution in Utah. Mobile sources like cars and trucks account for 50% of Utah air pollution according to the Utah Department of Environmental Quality. This contribution to air pollution is especially worse in the winter, threatening respiratory and cardiovascular systems with the potential to kill individuals.[32] There are continuous lawsuits against major polluters and regulatory challenges, but stricter laws are yet to be enforced.[33] Further on in this article, we will mention the devastating variety of health effects individuals in Utah face due to pollution. Despite the continuous information found on the effects of pollution, and the communities most affected, we are yet to see stricter laws to significantly reduce air pollution.

B. Successes of the Clean Air Act

Pollutants in Utah are harming residents' health; despite economic greed, the CAA has helped not only Utah but the rest of the country in seeing change. To begin with, Utah has begun to convert petroleum refineries to the production of tier three fuels reducing

31 42 U.S.C. § 7604 (current through P.L. 118-34, published on www.congress.gov on 12/26/2023, except for P.L. 118-31).

32 Understanding the sources and causes of Utah's Air Pollution Utah Department of Environmental Quality, https://deq.utah.gov/communication/news/understanding-utahs-air-quality (Last visited Feb 18, 2024)

33 Rethink your relationship with Cars Utah Department of Environmental Quality, https://deq.utah.gov/air-quality/rethink-relationship-cars-clear-air-challenge (Last visited Nov 6, 2023)

sulfur emissions and cutting down vehicle fleets.[34] Tier 3 requires that petroleum refiners reduce the sulfur content of gasoline. It is a standard set by the EPA. Chevron is one of the oil corporations committed to producing and making tier three fuels available for purchase in Utah to reduce vehicle emissions. In addition to making cleaner fuel more accessible, Chevron is working to reduce emissions by replacing equipment to improve operational efficiency. They are working with organizations like the Utah Clean Air Partnership to begin implementing programs focusing on gas cans, wood stoves, and water heater exchange to reduce emissions.[35]

Sinclair Oil Corporation is another oil company committed to low-sulfur gasoline to reduce emissions. A refinery in Sinclair, Wyoming is producing low-sulfur fuel and announced its commitment to produce fuels at branded stations in Salt Lake City.[36] Four of five refineries in Utah are now producing and selling cleaner fuel to reduce emissions. Big Oil West is yet to file for a High Infrastructure Tax Credit to verify they are producing lower sulfur fuel, but once this is done five refineries in Utah will be selling cleaner fuel to reduce emissions.[37]

In the realm of infrastructure, Utah has witnessed a notable achievement under the Clean Air Act through the promotion of improved building practices. This involves adopting enhanced construction methods, such as using thicker studs and increased insulation to mitigate heating and cooling expenses. Furthermore, the

34 Clean Air Projects Envision Utah, https://envisionutah.org/clean-air-projects#:~:text=The%20Clean%20Air%20Action%20Team%20Successes%3A,emissions%20from%20Utah's%20vehicle%20fleet. (Last visited Nov 6, 2023)

35 Tier 3 chevron.com, https://saltlakecity.chevron.com/our-businesses/tier-3#:~:text=Tier%203%20is%20a%20set,(ppm)%20to%2010%20ppm. (Last visited Nov 6, 2023)

36 Tier 3 gas Tier 3 Gas | Sinclair Oil Corporation, https://www.sinclairoil.com/tier-3-gas (Last visited Nov 6, 2023)

37 Four Utah refineries now produce cleaner tier 3 fuels, and the fifth says it will soon The Salt Lake Tribune, https://www.sltrib.com/renewable-energy/2023/01/22/four-utah-refineries-now-produce/ (Last visited Nov 6, 2023)

integration of more efficient low NOx water heaters not only contributes to the reduction of pollutants but also aids in conserving energy resources, marking another success of the Clean Air Act in the state.

These successes reflect a certain pattern: asking individuals to do something about the consequences of pollution when their contributions are minimal compared to the impact corporations have on the environment. For decades, 100 companies have been found responsible for 71% of greenhouse gas emissions.[38] Many of the successes of the CAA revolve around citizens changing several aspects of their lifestyles to become more environmentally conscious. However, consumers making different choices such as taking public transportation or buying electric cars is not going to significantly reduce air pollutants in the environment.

III. Proof of Claim

A. Narrowing down the Problem

According to the EPA, the CAA is responsible for preventing over 230,000 early deaths and the frequency of respiratory diseases like bronchitis and asthma exacerbation.[39] Overall, the health effects of harmful air pollutants have the potential to affect citizens in concentrated areas; yet these effects are disproportionately affecting racial, and ethnic communities. Affecting many aspects of public health and everyday life factors such as education.

About 1 in 4 people in the United States – more than 119 million residents – live with air pollution that can hurt their health and shorten their lives, according to a new report from the American Lung Association. People of color are disproportionately affected, as

38 Provo Clean Air Toolkit - Home, https://provocleanair.org/ (Last visited Nov 7, 2023)

39 The United States clean air act turns 50: Is the air any better half a century later? UNEP, https://www.unep.org/news-and-stories/story/united-states-clean-air-act-turns-50-air-any-better-half-century-later (Last visited Nov 14, 2023)

are residents of Western cities.[40] Not everyone experiences pollution the same way in the US. Regardless of the region, communities of color endure most of the problem. The United States population is composed of approximately 41% people of color[41]; yet 54% of these individuals of 120 million, live in counties with at least one failing grade for unhealthy air. Seventy-two percent of 18 million residents (about the population of New York) live in counties with the worst air quality.[42] In the pursuit of environmental justice in the country, it has become increasingly clear that environmental racism continues to persist. We must address this issue with utmost urgency and demand a comprehensive environmental justice mandate.

The above mentions the effects of living in highly polluted areas. In 2019 a study about the association between long-term exposure to air pollution and changes in emphysema and lung function was published. This is a cohort study that followed participants in 6 US metropolitan regions from 2000-2018. It was found that there was a statistically significant association between O_3, PM, oxides of nitrogen, and black carbon with increases in emphysema. Emphysema is a chronic respiratory disease characterized by the gradual destruction of lung tissue, particularly the alveoli (small air sacs) where oxygen and carbon dioxide exchange occur. This condition is often associated with long-term exposure to irritants, such as cigarette smoke, and air pollution. The damage leads to decreased elasticity of the lungs, making it difficult for them to recoil and expel air. Symptoms include shortness of breath, wheezing, and coughing. Emphysema

40 Populations at risk: State of the Air State of the Air | American Lung Association, https://www.lung.org/research/sota/key-findings/people-at-risk#:~:text=All%20of%20the%20119.6%20million,and%20death%20from%20their%20exposure (Last visited Feb 20, 2024)

41 U.S. Census Bureau, QuickFacts, https://www.census.gov/quickfacts/fact/table/US/PST045223#PST045223

42 A quarter of Americans live with polluted air, with people of color and those in western states disproportionately affected, report says CNN, https://www.cnn.com/2023/04/19/health/state-of-the-air-2023/index.html#:~:text=Specifically%2C%20although%20people%20of%20color,of%20color%2C%20the%20report%20said. (Last visited Nov 14, 2023)

is a type of chronic obstructive pulmonary disease (COPD) and can significantly impact an individual's respiratory function and quality of life. In study follow-ups, it was found that O_3 and oxides of nitrogen were associated with increases in emphysema, and O_3 was significantly associated with a faster decline in a measure of forced expiratory volume[43](FEV): measures of how much air individuals can exhale during forced breathing.

The FEV is the most important measurement of lung function when diagnosing obstructive lung diseases, seeing how well medicines to improve breathing are working, and testing if lung diseases are getting worse.[44] The metropolitan areas where individuals lived for the study have lower ozone levels than Utah. This means we can only assume the effects of these hazardous air pollutants are affecting Utah residents more. Individuals living in highly polluted areas are withstanding the worst of environmental discrimination.

Recent legal cases, such as *Heal Utah, et al. v. EPA, et al.,*[45] highlight the critical role of the EPA in safeguarding public health. Heal Utah is a movement advocating for cleaner air, energy, and climate, as well as the elimination of pollutants by empowering grassroots organizations, using science-based solutions, and developing common–sense policies. This organization has fought to protect Utah's health and the natural world from environmental threats and

43 Meng Wang et al., Association between long-term exposure to ambient air pollution and change in quantitatively assessed emphysema and lung function, 322 JAMA , 546 (2019)

44 Forced expiratory volume and forced vital capacity: NYP NewYork-Presbyterian, https://www.nyp.org/healthlibrary/articles/forced-expiratory-volume-and-forced-vital-capacity#:~:text=Forced%20expiratory%20volume%20(FEV)%20measures,exhaled%20during%20the%20FEV%20test. (Last visited Feb 20, 2024)

45 Heal Utah et al. v. EPA et al., No. 21-9509 (10th Cir. 2023)

succeeded.[46] In the case of *Heal Utah v. EPA*, the case was centered around air pollution control on coal-fired power plants in Utah contributing to regional haze. Due to the haze impairing visibility in national parks and wilderness areas across the United States, Class 1 areas. These areas according to the CAA are to be regulated to restore visibility conditions by the year 2064 to comply with regional haze requirements.[47] The efforts to improve visibility are implemented with the best available retrofit technology (BART) and states must develop SIPs to mitigate emissions that contribute to regional haze. EPA abused discretion by approving the SIP even though measures did not satisfy CAA's national visibility goals. [48]

In addition to that, complaints submitted by petitioners during the rulemaking processes failed to be responded to and acknowledged. This case ended with the EPA endorsing Utah's decision to adopt alternative measures instead of BART to control visibility-impairing emissions at power plants.[49] This is one case where the federal government wrongfully approved a SIP with consequences for the citizens of the state and country. Power plants were not more important than the health and safety of the individuals involved yet, we saw it was approved. This article has mentioned different health effects and risks associated with high pollution and it is necessary for the CAA to be strict and enforce policies to protect the well-being

46 Heal Utah Empowers Grassroots Advocates, uses science-based solutions, Eal Utah empowers grassroots advocates, uses science-based solutions, and develops common-sense policy.Heal Utah, https://www.healutah.org/?gclid=CjwKCAiA0syqBhBxEiwAeNx9N4OrZ8UsWNi2KdU2y8zGnc-B7jW52WmdJFt6cxYHHUKpqkDuLjofdhoCHv8QAvD_BwE (Last visited Feb 20, 2024).

47 Protection of Visibility: Amendments to Requirements for State Plans, Federal Register (2017), https://www.federalregister.gov/documents/2017/01/10/2017-00268/protection-of-visibility-amendments-to-requirements-for-state-plans (Last visited Mar 12, 2024).

48 40 CFR 51.308 -- Regional haze program requirements., https://www.ecfr.gov/current/title-40/part-51/section-51.308 (Last visited Mar 12, 2024).

49 Heal Utah et al. v. EPA et al., No. 21-9509 (10th Cir. 2023), available at JUSTIA.

of individuals first before the well-being of different companies that are impacting the health of residents.

There is a proposed bill for Death Certificate Amendments in Utah: that indicates that an individual's death was attributed to air pollution.[50] This bill would allow health care professionals to indicate in death certificates that the cause of death was air pollution due to how many deaths are caused by this problem.

Air Pollution is the cause of between 2,500 and 8,000 premature deaths in Utah each year.[51] The health effects that have been highlighted in this paper point to the need for controlling air pollution in Utah due to the adverse health effects. These cases underscore the urgent need for an Environmental Justice Mandate to hold the EPA accountable for its role in environmental discrimination.

Numerous studies, including research from the Columbia University Mailman School of Public Health, have shown a direct link between air pollution exposure and poor academic performance in children.[52] There are many adverse effects of air pollution, but it is evident that the direct effects are impacting everyone, even the way children perform in an academic setting. Reducing air pollution would decrease the effects we are seeing in children at school. For this reason, the CAA must become stricter in policy and efforts to decrease air pollution. The detrimental impact of air pollution on education is undeniable and cannot be ignored.

A study conducted in Salt Lake City revealed that schools with a greater proportion of minority populations experienced higher

50 H.B. 109, 66th Leg., Reg. Sess. (Utah 2022), available at https://le.utah.gov/~2022/bills/static/HB0109.html.

51 Isabella M. Errigo et al., Human health and economic costs of air pollution in Utah: An expert assessment, 11 Atmosphere , 1238 (2020)

52 Air pollution exposure linked to poor academics in childhood Columbia University Mailman School of Public Health, https://www.publichealth.columbia.edu/news/air-pollution-exposure-linked-poor-academics-childhood (Last visited Feb 18, 2024).

exposure to pollutants.[53] Hispanic students are exposed from 2% to 12% more than the average student in the state. Delving into the moral implications inherent in such disparities, there should be immediate measures to address this crisis.

B. Environmental Justice Mandate

The EPA needs a clear and explicit environmental justice mandate within the CAA, requiring regulatory agencies to consider the disparate impacts of air pollution on minority and low-income communities when setting emissions standards and implementing pollution control measures. The geographical situation and the macroeconomic situation of each state are different and more research is necessary to comprehend the scale and impact of pollution from mobile and stationary sources.

The vague language of the CAA has not allowed the EPA to enforce all the necessary changes that should be implemented to meet environmental goals. Congress told the EPA to keep up with the evolving landscape of industries and instructed the entity to ensure there is clarity and specific standards to keep its statutes' effectiveness. To achieve a more equitable and effective approach to addressing air quality issues, it is imperative to enact targeted policy changes that explicitly mandate the consideration of environmental justice concerns. This involves a specific proposal to establish a framework that prioritizes communities most severely affected by air pollution, starting at the neighborhood level, and progressively extending to cover broader geographic zones. The proposed policy framework seeks to ensure that no community bears a disproportionate burden of the adverse effects of air pollution. By concentrating efforts on those areas struggling the most, we can initiate meaningful change at the grassroots level, gradually expanding the scope to encompass larger regions. This proactive approach aligns with the

53 Social disparities in Air Pollution The John and Marcia Price College of Engineering at the University of Utah, https://www.price.utah.edu/2020/05/18/social-disparities-in-air-pollution#:~:text=The%20researchers%20analyzed%20PM%202.5,air%20quality%20under%20all%20scenarios. (Last visited Feb 18, 2024).

overarching goal of creating a regulatory landscape that not only acknowledges the disparities in environmental impact but actively works towards rectifying them through focused and comprehensive policy adjustments.

The United States currently stands as the world's second-biggest annual emitter of greenhouse gasses, contributing a greater portion of historical emissions compared to other nations. This broader national challenge of managing environmental responsibilities is mirrored in state-level disputes over federal environmental regulations. Utah's contentious relationship with the federal government, particularly the Environmental Protection Agency (EPA), exemplifies such disputes. The state's resistance to the "good neighbor" rule, aimed at reducing ozone-forming emissions from power plants, highlights a significant tension. Senator Scott Sandall's introduction of SB57, advocating for a process allowing Utah to disregard federal laws it deems unconstitutional—specifically targeting EPA regulation—underscores this tension. Utah's opposition is primarily driven by economic concerns, arguing that compliance with the rule would impose significant costs on the state's coal-fired power plants, potentially leading to shutdowns and power shortages.

Despite EPA claims that enforcing the rule would yield substantial health and environmental benefits,[54] Utah has fiercely opposed it, allocating significant resources to legal battles.[55] The state Legislature passed a resolution denouncing the rule and has pursued multiple legal challenges, aiming to overturn or delay its implementation. However, critics argue that such resistance could result in prolonged litigation, exacerbating rather than resolving the conflict between state and federal authority. Despite opposition, SB57 passed the House and awaits final review in the Senate, indicating Utah's

54 Environmental Protection Agency, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846), Method 6010D: Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) (1994).

55 Utah Legislature to pledge $2M for ozone fight with EPA The Salt Lake Tribune, https://www.sltrib.com/news/environment/2023/01/24/utah-leg-pledge-2-million-ozone/ (Last visited 2024)

ongoing defiance of federal environmental regulations.[56] Utah's confrontational stance reflects broader tensions between state sovereignty and federal authority, particularly regarding environmental policies.[57] While proponents of SB57 argue for state autonomy in challenging perceived federal overreach, opponents caution against undermining constitutional principles and anticipate protracted legal disputes. The outcome of Utah's legislative and legal maneuvers will not only shape the state's environmental policies but also set precedents for the balance of power between states and the federal government in regulating environmental issues.

C. Proposal

In the realm of environmental law and policy, the imperative to address air quality concerns extends beyond mere regulatory frameworks. It necessitates a comprehensive approach that actively involves and empowers communities affected by air pollution. The first measure would be addressing community engagement. The community could be involved in the decision-making processes related to air quality regulations and permitting is crucial. Second, regarding target investments, allocating funding and resources to implement pollution reduction strategies in disproportionately affected areas is essential. Promoting clean energy, sustainable transportation, and improved public health infrastructure can mitigate the adverse effects of corporate decisions on air quality. Third, implementing policies that facilitate a just transition for communities heavily reliant on polluting industries is a moral and economic imperative. This ensures that environmental improvements are coupled with job opportunities and economic growth, helping affected communities recover.

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56 Environmental Protection Agency, Fact Sheet: 2015 Ozone Proposed Good Neighbor Rule (Mar. 2022). Available at: https://www.epa.gov/system/files/documents/2022-03/fact-sheet_2015-ozone-proposed-good-neighbor-rule.pdf.

57 United States Environmental Protection Agency, (2024), https://www.epa.gov/Cross-State-Air-Pollution/good-neighbor-plan-2015-ozone-naaqs

Other measures could focus on the availability of government financial assistance to improve pollution control and air quality is a crucial resource. Because the influence of big corporations has sometimes impeded the effective utilization of these resources. This highlights the need for comprehensive reform and a focus on enforcing existing regulations and closing loopholes.

It is important to acknowledge that there are instances where corporations exploit loopholes to avoid strict federal regulations, further exacerbating air quality issues.[58]One of the most common issues is the exemptions that facilities such as oil refineries, chemical plants, and incinerators have to disregard established emission standards, cease reporting their pollution, and evade penalties or repercussions for excessive emissions during startup, shutdowns, and malfunctions (SSM).[59] Despite consistent judicial rulings declaring these exemptions as unlawful, the Environmental Protection Agency (EPA) itself acknowledges their illegality.

SSM events occur frequently, particularly in the aftermath of natural disasters, which are escalating due to the climate crisis. During SSM events, industrial facilities, located in Black and Latino communities, release pollutants at significantly elevated levels compared to regular operations.[60] Due to SSM loopholes, these facilities act with impunity. The emitted pollutants encompass substances

58 Meng Wang et al., *Association between long-term exposure to ambient air pollution and change in quantitatively assessed emphysema and lung function*, 322 JAMA , 546 (2019)
Volkswagen AG Agrees to Plead Guilty and Pay $4.3 Billion in Criminal and Civil Penalties for Six, Justice.gov, January 11, 2017, https://www.justice.gov/opa/pr/volkswagen-ag-agrees-plead-guilty-and-pay-43-billion-criminal-and-civil-penalties-six
https://www.supremecourt.gov/opinions/21pdf/20-1530_n758.pdf

59 Dangerous loopholes allow facilities to release toxic, unchecked air pollutants Earthjustice, https://earthjustice.org/press/2022/dangerous-loopholes-allow-facilities-to-release-toxic-unchecked-air-pollutants (Last visited Feb 18, 2024).

60 Dangerous loopholes allow facilities to release toxic, unchecked air pollutants Earthjustice, https://earthjustice.org/press/2022/dangerous-loopholes-allow-facilities-to-release-toxic-unchecked-air-pollutants (Last visited Feb 18, 2024).

such as soot (particulate matter), sulfur dioxide, hydrogen sulfide, carbon monoxide, and other toxic chemicals that, when combined, contribute to the formation of ozone smog. For individuals residing or working near these facilities that exploit these loopholes, the cumulative health impacts are severe, heightening the risks of various cancers, asthma, respiratory ailments, heart attacks, and premature death.[61]

Earthjustice attorney Seth Johnson emphasized, "Industrial facilities nationwide repeatedly initiate startup, shutdown, and malfunction events, exploiting illegal loopholes to release substantial amounts of harmful air pollution into neighboring communities without consequences. The EPA must promptly close SSM loopholes, as communities rely on the agency to safeguard their health and enhance their overall quality of life."[62]

Between January 14 and 17, 2024, corporations submitted documentation to the Texas Commission on Environmental Quality, the state's environmental regulator, acknowledging at least 36 instances of "unintentional" emissions attributable to freezing temperatures. Based on the companies' initial assessments, these occurrences collectively resulted in over a million pounds of air pollution. While this amount may seem modest compared to the substantial volumes of sanctioned emissions released daily in Texas, a state characterized by a significant industrial presence, these reports underscore the susceptibility of facilities to weather conditions.

Furthermore, they highlight an enduring regulatory gap in environmental oversight, permitting companies to surpass

61 Jean D. Brender et al., Residential proximity to environmental hazards and adverse health outcomes, 101 American Journal of Public Health (2011)

62 Dangerous loopholes allow facilities to release toxic, unchecked air pollutants Earthjustice, https://earthjustice.org/press/2022/dangerous-loopholes-allow-facilities-to-release-toxic-unchecked-air-pollutants (Last visited Feb 18, 2024).

authorized emission limits without repercussions under specific climatic circumstances.[63]

In Utah, US Magnesium, a mineral extractor, has faced significant scrutiny for alleged air quality infractions spanning over a decade. These infractions range from emitting excessive toxic chlorine into the airshed of the Wasatch Front to delaying required tests.[64] Despite receiving at least 30 violations from the Utah Department of Environmental Quality (DEQ) since 2013, the company managed to avoid significant financial penalties for its actions. Instead, in the fall of 2023, US Magnesium settled with the DEQ for a penalty that some regulators deemed lenient.

The timing of the settlement raised eyebrows as it coincided with a substantial donation from US Magnesium's parent company, The Renco Group, to Utah Governor Spencer Cox's campaign. The donation occurred just days before the Utah Air Quality Board, whose members are appointed by the governor, approved the settlement. However, both Cox's office and the DEQ emphasized the independence of the Air Quality Board and asserted that the governor had no direct influence over the settlement negotiations.

US Magnesium's operations involve diverting water from the Great Salt Lake for mineral extraction, a process that produces corrosive waste and toxic emissions. The company's history of environmental violations prompted DEQ to pursue penalties, culminating in a proposed settlement of $413,772 in May 2023. Concerns were raised by board members regarding the adequacy of the settlement, particularly in deterring future violations. Despite reservations from some board members, the settlement was ultimately approved with a slightly higher penalty.

The settlement drew attention to the broader issue of corporate influence in environmental regulation. Critics argue that companies

63 Texas companies reported releasing 1 million pounds of excess pollution during recent cold snap The Texas Tribune, https://www.texastribune.org/2024/01/26/texas-pollution-emissions-cold-weather-upsets/ (Last visited Feb 20, 2024).

64 Caroline C. Womack et al., Midlatitude ozone depletion and air quality impacts from industrial halogen emissions in the Great Salt Lake Basin, 57 Environmental Science & Technology, 1870–1881 (2023)

like US Magnesium should prioritize environmental responsibility over political contributions. Additionally, concerns have been raised about the effectiveness of penalties in deterring future violations, with suggestions for stricter enforcement measures such as consent decrees. Furthermore, the involvement of mineral extractors in Utah politics has come under scrutiny, with accusations of inadequate royalty payments and environmental stewardship. While certain legislators have criticized mineral extraction companies, US Magnesium has largely escaped public reprimand, despite its controversial actions regarding water usage from the Great Salt Lake.

In summary, the case of US Magnesium highlights the complex interplay between corporate interests, political contributions, and environmental regulation. It underscores the importance of transparency and accountability in ensuring the protection of natural resources and public health. Enforcing the regulations already in place is a critical initial step, but it may also be necessary to consider stricter laws to address these gaps effectively.

The 1990 Clean Air Act Amendments (CAA) aimed to address air quality issues, but challenges persist. To address these concerns, amendments, and changes should be considered, including stricter standards and improved enforcement. The 1990 CAA Amendments summary (linked above) is a valuable resource for understanding the existing regulatory framework and identifying areas requiring revision.[65]

IV. Conclusion

In conclusion, the Clean Air Act (CAA) stands as a pivotal piece of legislation that has significantly shaped environmental policy in the United States. From its inception in 1963 to subsequent amendments addressing emerging challenges, the CAA has played a crucial role in regulating air pollutants and safeguarding public health. The state of Utah has seen substantial benefits resulting from the

65 Environmental Protection Agency, "1990 Clean Air Act Amendment Summary" (Last modified 11/15/2023), https://www.epa.gov/clean-air-act-overview/1990-clean-air-act-amendment-summary.

CAA, with improved air quality leading to better public health outcomes and a more robust economy.

There are critical limitations and challenges that the CAA faces, particularly in addressing air pollution hotspots, climate change, and environmental justice concerns. The enforcement of regulations at both federal and state levels presents a complex landscape, with disparities in addressing pollution on smaller regional scales. Legal cases, such as those involving Diesel Power Gear, LLC, and Tap Worldwide LLC, highlight the ongoing challenges and the need for vigilant enforcement.

The impact of air pollution on public health, particularly in vulnerable communities, is a central concern. The disproportionate effects on racial and ethnic communities, as well as low-income populations, emphasize the urgency of addressing environmental justice within the framework of the CAA. The call for an Environmental Justice Mandate is a critical proposal to ensure that regulatory agencies consider the disparate impacts of air pollution on minority and low-income communities, holding the EPA accountable for its role in perpetuating environmental discrimination.

While successes in Utah, such as the conversion of petroleum refineries and the Provo Clean Air Toolkit, prove positive steps, this paper acknowledges that individual behavioral changes alone cannot overcome the influence of big corporations. The undue influence of powerful entities in shaping decisions affecting air quality, as seen in the fossil fuel and automotive industries, demands a reevaluation of regulatory frameworks and a commitment to closing existing loopholes.

The proposal for community engagement, targeted investments, and economic transition recognizes the need for a comprehensive approach to address environmental disparities. The availability of government financial assistance, coupled with stricter regulations and improved enforcement, can contribute to a more effective pollution control strategy. These decisive actions can collectively pave the way for a more robust, equitable, and sustainable approach to air quality regulation. The argument of this paper resonates across legal, environmental, and community spheres, ensuring that the

Clean Air Act not only endures but evolves to meet the challenges of the present and future.

In essence, while celebrating the accomplishments of the Clean Air Act, this paper calls for a reassessment and strengthening of environmental regulations to ensure that the goals of the CAA are fully realized. The health and well-being of all citizens, regardless of socioeconomic status or ethnic background, should remain at the forefront of environmental policy, reinforcing the commitment to clean air and a sustainable future.