

ABSTRACT

The Evolving Legal Landscape of Greenhouse Gas Emissions from Coal-Fired Power Plants

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The regulation of greenhouse gas emissions from coal-fired power plants has faced significant controversy and litigation in recent years. The Obama Administration EPA's Clean Power Plan, promulgated in 2015 for the purpose of reducing greenhouse gas emissions from stationary sources, was challenged by multiple states and industry groups on the grounds that, in enforcing the rule, the EPA would be exceeding its regulatory authority under the Clean Air Act. The litigation surrounding the Clean Power Plan reached the Supreme Court in 2016, where the court issued a stay on the rule pending judicial review. The election of President Trump marked a significant turning point in greenhouse gas emission regulation policy, with his administration's EPA issuing a proposed repeal of the Clean Power Plan in late 2017 and subsequent replacement rule, titled the proposed Affordable Clean Energy Rule, in 2018. The Final Rule, set to be issued in the second quarter of 2019, is expected to face litigation, signifying uncertainty for the implementation of the rule and the future of greenhouse gas emission regulations in the United States.

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FROM COAL-FIRED POWER PLANTS

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CHAPTER ONE

Clean Air Act

First enacted in 1970, the Clean Air Act (“CAA”) was established for the purpose of determining and describing the measures Congress and the Environmental Protection Agency (“EPA”) are required to take to defend and preserve the United States’ stratospheric ozone layer and air quality.¹ The CAA, however, did not address certain issues that have had significant negative implications on the environment and public health, namely greenhouse gas (“GHG”) emissions from stationary sources such as power plants, chemical plants, and gas stations.² In order to address this issue, the Clean Power Plan (“CPP”) was promulgated by the Obama Administration’s EPA in 2015 but has been the subject of significant litigation, with the Supreme Court issuing a stay on it in 2016 pending judicial review, halting legal proceedings and prohibiting the rule from being enforced during the pendency of the federal litigation.

The CAA necessitates that the EPA enforce pollution standards among the states in an unprecedented manner through a variety of programs, each of which target specific areas of environmental and public health concern that arose as a result of air pollution.³ The CAA primarily targets two categories of sources of air pollution that are known to cause significant harm to the environment, public health, and the stratospheric ozone:

¹ Clean Air Act, 42 U.S.C. §7401.

² “The Plain English Guide to the Clean Air Act,” U.S. EPA, July 2007, <https://www.epa.gov/sites/production/files/2015-08/documents/peg.pdf>.

³ Ibid.

stationary sources and mobile sources.⁴ The regulation of mobile sources, which include cars, trucks, and airplanes, was addressed by the Supreme Court in the 2007 case, *Massachusetts v. Environmental Protection Agency*.⁵ Stationary sources, on the other hand, have also been the subject of a significant amount of public and political debate. The authority of the EPA to regulate stationary sources was the subject of the 2014 Supreme Court case *Utility Air Regulatory Group v. Environmental Protection Agency*.⁶ Most notably, however, is the Obama Administration EPA's CPP, which centered around the regulation of stationary sources of GHG emissions. In 1990, the CAA was significantly amended, expanding the regulatory powers the EPA had previously been granted under it by strengthening the EPA's power to enforce CAA provisions through an increased range of civil and criminal sanctions for noncompliance.⁷ The 1990 Amendments also worked to create a more cost-effective means to achieve reductions in air pollution.⁸

The EPA's regulatory power under the CAA was significantly limited by the Supreme Court's decision in the 2014 case *Utility Air*. However, in order to fully understand the limitations *Utility Air* placed on the EPA, an examination of a specific and rather controversial portion of the CAA must occur. The EPA, under the CAA, has a duty to protect and preserve air quality, which is mainly achieved through a reduction in the amount of pollutants that are emitted into the atmosphere. In order to achieve this

⁴ U.S. EPA, "The Plain English Guide to the Clean Air Act."

⁵ *Massachusetts v. Environmental Protection Agency*, 549 U.S. 497 (2007).

⁶ *Utility Air Regulatory Group v. Environmental Protection Agency*, 134 U.S. 2427 (2014).

⁷ U.S. EPA, "The Plain English Guide to the Clean Air Act."

⁸ *Ibid.*

reduction, the EPA is required under Title I of the CAA to establish National Ambient Air Quality Standards (“NAAQS”) for the six criteria air pollutants and to regulate the stationary sources that emit these pollutants.⁹ One part of the requirements is that stationary sources must secure a Prevention of Significant Deterioration (“PSD”) permit, which establishes a limit to the amount of pollutants they are allowed to emit. There are also a group of sources referred to as “anyway” sources, which are stationary sources that “already emit conventional pollutants.”¹⁰ The EPA’s decision to subject these “anyway” sources to the Best Available Control Technology (“BACT”) program is one of the primary issues around which the litigation regarding the CAA arose, as the EPA was given a great deal of discretionary power in establishing this sort of regulatory standard. Many states and industry groups sued the EPA over this issue, arguing that the EPA is overstepping its regulatory authority.¹¹ The D.C. Circuit Court of Appeals, however, ruled in favor of the EPA, stating that the broad language of the CAA gives EPA the authority to interpret its regulatory powers, and, therefore, the states and industry groups do not have standing to sue.¹²

The majority opinion on *Utility Air*, authored by Justice Antonin Scalia, ruled in favor of the EPA when it upheld the agency’s interpretation that the CAA calls for “anyway” sources that are already regulated under the PSD program to fall subject to

⁹ Heather DeLaurie, “Utility Air Regulatory Group v. Environmental Protection Agency: Expanding EPA’s Discretionary Regulations of Greenhouse Gases Case Comments,” *Digest: National Italian American Bar Association Law Journal* 23 (2015): 104.

¹⁰ *Ibid.*, 105.

¹¹ *Ibid.*, 105.

¹² *Ibid.*, 105.

BACT standards as well.¹³ The form of these BACT standards vary from source to source, but, for example, may consist of additional equipment to lower the level of emissions or may constitute a complete change in the way the source is operated. Justice Scalia's explanation relating to his siding with the EPA in this instance, but not in the instance relating to GHGs under Title V, has to do with the fact that the BACT standards are far more straightforward in their statutory wording than Title V. Therefore, Justice Scalia concluded, the EPA is within the limits of its statutory power with this interpretation and is not overstepping into Constitutional power.¹⁴ Additionally, to support this opinion, the Court cited *Chevron U.S.A Inc. v. Natural Resources Defense Council, Inc.*,¹⁵ which ruled that government agencies are called to interpret broad language within administrative statutes in a way that is logical and consistent with the amount of authority the agency is given,¹⁶ which, in *Utility Air*, the Court holds that the EPA has done.

The Court ruled against the EPA in one aspect of the *Utility Air* majority opinion, holding that the EPA acted outside its statutory authority when it "tailored" the text of the CAA regarding sources that emit 100 or 250 tons per year so that it fit its needs of including stationary sources that emit GHGs. The Court held that the EPA's actions in this instance were against Congressional intent and therefore went against the precedent

¹³ DeLaurie, "Utility Air Regulatory Group v. Environmental Protection Agency: Expanding EPA's Discretionary Regulations of Greenhouse Gases Case Comments," 106-7.

¹⁴ 134 U.S. 2427 (2014).

¹⁵ *Chevron U.S.A Inc. v. Natural Resources Defense Council*, 467 U.S. 837 (1984).

¹⁶ *Ibid.*

set in *National Association of Home Builders v. Defenders of Wildlife*¹⁷ where the Court held that agencies are required to always “give effect to the unambiguously expressed intent of Congress.”¹⁸ The Court also struck down the EPA’s interpretation that all GHGs fall subject to the emission regulations placed on air pollutants under Title V of the CAA.¹⁹ The Court argued that this interpretation is far too broad and unreasonable, especially given the fact that, since 1993, the EPA has consistently maintained a somewhat narrow interpretation of what an air pollutant is.²⁰ In fact, the Court argues, for the EPA to have a broad enough interpretation of air pollutants under Title V to justify the inclusion of all GHGs under the program is vastly exceeding the intentions with which Congress promulgated and established the CAA and expands the number of regulated pollutants to an extreme and unreasonable degree.²¹

In his dissenting opinion in *Utility Air*, Justice Breyer argued that, although the CAA’s Title V regulations should not necessarily be imposed upon all GHGs, the statutory intent of the CAA should be considered when determining which pollutants to restrict.²² This statutory intent, according to Justice Breyer, is to impose strict regulations on large sources of air pollution, while being more lenient with smaller sources.²³ Therefore, he posits the EPA’s interpretation that GHGs should be subject to Title V

¹⁷ *National Association of Home Builders v. Defenders of Wildlife*, 551 U.S. 644 (2007).

¹⁸ *Ibid.*

¹⁹ DeLaurie, “*Utility Air Regulatory Group v. Environmental Protection Agency: Expanding EPA’s Discretionary Regulations of Greenhouse Gases Case Comments*,” 105-6.

²⁰ *Ibid.*, 106.

²¹ *Ibid.*, 106.

²² *Ibid.*, 107.

²³ *Ibid.*, 107.

restrictions should be upheld given the fact that the EPA only ever intended to regulate GHGs that were being emitted from large sources, not smaller sources. Justice Breyer was joined by Justice Ginsburg, Justice Sotomayor, and Justice Kagan in this dissent. Furthermore, Justice Alito, joined by Justice Thomas, wrote a dissenting opinion arguing that including GHGs in the BACT program, but excluding them from being subject to Title V restrictions is a “disjointed interpretation of the CAA.”²⁴ Instead, Justice Alito argued, the Court should have disallowed GHGs from falling subject to BACT standards entirely so that both interpretations are compatible with one another.

The Court’s decision in *Utility Air* in many ways limited the power and authority of the EPA under the CAA. More specifically, this decision disallowed the EPA from interpreting the CAA so as to consider all GHGs air pollutants and emphasized the notion that the EPA must interpret statutory regulations, such as the CAA, in a reasonable way that aligns with the original intentions of Congress. However, this decision did signal a couple of positive advancements for the future of the EPA, particularly with the Court’s agreement that BACT standards should be imposed upon “anyway” sources, which are sources from which conventional pollutants were already being emitted.²⁵ This decision also gave the EPA the ability to place any air pollutant it deems as destructive to the public or the environment under NAAQS. More generally speaking, Justice Scalia’s decision in *Utility Air* gave the EPA the power to interpret broad language in a way that aligns with the original purpose of the statute. This power will certainly carry over into instances where the wording of statutory text may be broad or ambiguous and will afford

²⁴ DeLaurie, “Utility Air Regulatory Group v. Environmental Protection Agency: Expanding EPA’s Discretionary Regulations of Greenhouse Gases Case Comments,” 108.

²⁵ *Ibid.*, 107-8.

the EPA the opportunity to tailor the text to fit with the needs of the particular environmental or public health issue that can be aided by the rule, as long as the interpretation aligns with the original Congressional intent.

The enactment of the CAA set an important precedent in the realm of climate change politics in regard to the power and authority it gave the EPA to take steps to reduce air pollution. The Supreme Court's decision in *Utility Air* refined and set boundaries upon the EPA's authority under the CAA, limiting it in some areas and allowing it leeway for interpretation in others. Despite these positive advancements, however, the CAA was unable to adequately address the full scope of the issue surrounding air pollution and to meet the goals with which Congress and the EPA promulgated it.²⁶ The first area in which the implementation of the CAA was primarily ineffective was in enforcing standards and State Implementation Plans ("SIPs") for ambient air quality.²⁷ The timetable set by the CAA seemed to be the most difficult part, as a majority of the states failed in submitting their plans within the ninth month deadline set by the CAA, and twenty-eight states had to be granted a two-year extension in 1975, five years after the enactment of the original rule.²⁸ The CAA was also unsuccessful in regulating mobile sources of air pollution, which it aimed to do primarily through targeting new passenger motor vehicles.²⁹ The CAA, however, could be said to be most ineffective in the regulation of existing stationary sources, as new sources were brought

²⁶ Richard Walker and Michael Storper, "Erosion of the Clean Air Act of 1970: A Study in the Failure of Government Regulation and Planning," *Boston College Environmental Affairs Law Review*, Vol. 7, Issue 2. (December 1, 1978): 191.

²⁷ Ibid., 192-3.

²⁸ Ibid., 204.

²⁹ Ibid., 214.

in under New Source Review (“NSR”) as a part of the 1977 CAA Amendments, but the regulation of existing sources was largely left to the states.³⁰

These inadequate means by which the CAA addressed existing stationary sources leads to a discussion on the larger issue surrounding the extent to which these sources are contributing to air pollution. Specifically, these stationary sources, which in regard to this discussion are primarily power plants, emit carbon dioxide (“CO₂”) into the atmosphere through the burning of coal or natural gas.³¹ It is these CO₂ emissions have been attributed to being one of the leading causes of global climate change. In fact, the Intergovernmental Panel on Climate Change under the United Nations stated that there is over ninety percent certainty that CO₂ emissions, along with other forms of GHG emissions from human activity in the last fifty years have been the cause of global warming.³² And, although some CO₂ in the atmosphere comes from natural sources, such as volcanic eruptions, decomposition of biomass, and the respiration of plants and animals, these emissions work to maintain the natural equilibrium of the Earth through the global carbon cycle. This global carbon cycle maintains carbon levels in the atmosphere through stabilizing CO₂ concentration throughout the ocean, land, and atmosphere.³³ Although the amount of CO₂ in the atmosphere from human activity does not make up as much of the total CO₂ in the atmosphere as emissions from natural

³⁰ Walker and Storper, “Erosion of the Clean Air Act of 1970: A Study in the Failure of Government Regulation and Planning,” 194.

³¹ “The Clean Power Plan,” Union of Concerned Scientists, November 1, 2018, <https://www.ucsusa.org/our-work/global-warming/reduce-emissions/what-is-the-clean-power-plan#.W-Dijy3MwfE>

³² “Climate Change Causes: A Blanket around the Earth,” NASA, <https://climate.nasa.gov/causes>.

³³ “CO₂ Stationary Source Emission Estimation Methodology,” U.S. Department of Energy, <https://www.netl.doe.gov/research/coal/carbon-storage/natcarb-atlas/co2-stationary-sources>

sources do, emissions from human activity are not a part of a natural cycle which keeps carbon levels in an equilibrium. On the contrary, CO₂ emissions from human activity are particularly harmful in that it “produces more CO₂ than nature can absorb.”³⁴ In fact, in 2014 the Department of Energy (“DOE”) reported that there was a total of 6,356 stationary sources that were emitting approximately 3,071 million metric tons of CO₂ annually.³⁵

Specifically, the coal industry has been credited with making significant contributions to the amount of toxic air pollutants in the atmosphere. Most notably, coal-fired power plants emit a significant portion of six “criteria pollutants” identified in the CAA. These criteria pollutants are: particles, ozone, lead, carbon monoxide (“CO”), nitrogen oxides (“NO_x”), and sulfur dioxide (“SO₂”).³⁶ These pollutants are known to have a number of adverse effects on both the environment and human health. Notably, particulate matter, which is also referred to as “soot,” leads many respiratory diseases, including chronic bronchitis, and aggravated asthma, as well as cardiovascular diseases such as heart attacks.³⁷ In 2014, 197,286 tons of small airborne particles were emitted by coal-fired power plants in the United States.³⁸ 41.2 tons of lead, 576,185 tons of CO, and 22,124 tons of volatile organic compounds, which form ozone, were emitted by coal power plants in the United States in 2014 as well.³⁹ Similar to particulate matter, NO_x

³⁴ U.S. Department of Energy, “CO₂ Stationary Source Emission Estimation Methodology.”

³⁵ Ibid.

³⁶ “Criteria Air Pollutants,” U.S. EPA, <https://www.epa.gov/criteria-air-pollutants#self>

³⁷ Ibid.

³⁸ Ibid.

³⁹ Ibid.

and SO₂ are harmful to humans' lungs, and, when combined, create acid deposition which is known to significantly damage the environment so much so that it has its own provision in the 1990 CAA Amendments. In 2014, an astonishing 3.1 million tons of SO₂ and 1.5 million tons of NO_x were emitted by coal-fired power plants in the United States.⁴⁰

Acid deposition, caused by the combination of SO₂ and NO_x, is addressed under Title IV of the 1990 CAA Amendments, as it has been shown to cause significant harm to the environment and public health. Primarily, acid deposition causes damage to ecosystems and crops, and causes the acidification of lakes and streams.⁴¹ This acidification has a negative effect on the reproductive system of aquatic organisms and creates a toxic environment in which they are sometimes unable to survive.⁴² Additionally, acid deposition causes significant damage to organisms that are necessary to maintain healthy soil and generates and disseminates toxins in the soil.⁴³ The purposes of Title IV are to annually reduce the emissions of SO₂ by 10 million tons from 1980 levels and to decrease the annual NO_x emissions by 2 million tons from 1980 levels in hopes of significantly reducing the occurrence of acid deposition and the damage it does to the earth and public health. Title IV works to achieve this through establishing compliance standards, requiring the reductions in SO₂ to be made by 1995 for phase one and by 2000 for phase two, and containing a financial penalty for the owner of sources

⁴⁰ "Coal and Air Pollution," Union of Concerned Scientists, <https://www.ucsusa.org/clean-energy/coal-and-other-fossil-fuels/coal-air-pollution#.W72Bai3MwfG>

⁴¹ Ibid.

⁴² John Ha, "Acid Rain Formation," University of Illinois, <http://butane.chem.uiuc.edu/pshapley/Enlist/Labs/AcidRain2/index.html>

⁴³ Ibid.

that exceed the emission standards set for SO₂ or NO_x. The occurrence of acid deposition and the harm it inflicts on public health and the environment is largely caused by the emissions of SO₂ and NO_x by coal-fired power plants.

In order to address the issue of GHGs being emitted from existing stationary sources, the Obama Administration's EPA published the proposed rule for the CPP on August 3, 2015. The full name of the CPP is Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Generating Units, and it was promulgated to specifically target electric generating units ("EGUs") for emitting most of the GHGs that are harmful to the environment and public health. The CPP derives authority under section 111(d) of the CAA, which calls for the EPA, states, tribes, and U.S. territories to work harmoniously together to decrease the amount of pollutants in the air.⁴⁴ The CPP hopes to achieve this goal by calling for the EPA to set standards, and states, tribes, and U.S. territories to come up with a plan for how they will meet those standards.⁴⁵ Although the Final Rule was published in the *Federal Register* on October 23, 2015, the CPP has undergone a great deal of litigation since then, preventing the rule from ever going into effect. The most significant development of this litigation occurred in the Supreme Court, where, on February 9, 2016, the Court issued a stay on the CPP pending judicial review, an unprecedented action that halted legal proceedings and prohibited the EPA from implementing the CPP during the time it was the subject of federal litigation.⁴⁶ A more

⁴⁴ 42 U.S.C. §7401.

⁴⁵ Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64661 (October 23, 2015) (40 C.F.R. pt. 60).

⁴⁶ *Chamber of Commerce v. Environmental Protection Agency*, 136 S.Ct. 999 (2016).

detailed discussion on the litigation that has surrounded the CPP will take place in later chapters.

A significant portion of the opposition to the enactment of the CPP has come from the coal industry, which argues that it is being unfairly targeted by the rule. This can be seen in the case of *West Virginia v. Environmental Protection Agency*, where twenty-seven states, including the state of West Virginia, along with utility, public power, and coal mining industry groups, argued against the CPP, stating that “the rule illegally meddles in state regulatory programs and violates principles of federalism.”⁴⁷ The opponents to the CPP also cited a host of other constitutional, statutory, and administrative procedural rights that the CPP violates, ultimately in hopes that the CPP will be indefinitely blocked by the Courts and therefore never be enacted or enforced. Moreover, opponents of the CPP were likely encouraged by the election of President Trump, as he has been vocal in his opposition to what he refers to as the Obama Administration’s “war on coal.” President Trump has also been outspoken regarding his national policy goal to increase economic growth and American energy independence, a great deal of which stems from the fossil fuel industry and natural gas industry. As a result, President Trump stands in opposition to the CPP, stating his concern that the rule does not allow for proper diversity in sources of energy and that it will disallow the United States from promoting and utilizing domestic energy sources and, therefore, achieving energy independence.⁴⁸

⁴⁷ “Your Guide to the Clean Power Plan in the Courts,” E&E News, Environment and Energy Publishing, https://www.eenews.net/eep/documents/Clean_Power_Plan_Courts.pdf

⁴⁸ Review of the Clean Power Plan, 82 Fed. Reg. 16329 (April 4, 2017) (codified at 40 C.F.R. pt. 60).

In order to achieve energy independence and end the “war on coal,” the Trump Administration published a proposed rule that would repeal the CPP in the *Federal Register* on October 16, 2017.⁴⁹ Prior to issuing this proposed repeal, the Trump Administration published an executive order on March 28, 2017, part of which contained a proposed review of the CPP to determine whether the rule and alternative approaches, “are appropriately grounded in EPA’s statutory authority and consistent with the rule of law... promote cooperative federalism and respect the authority and powers that are reserved to the states...[and] effect the Administration’s dual goals of protecting public health and welfare while also supporting economic growth and job creation.”⁵⁰ In order to support his energy policy goal and to carry out his vision for the EPA under his administration, President Trump nominated Scott Pruitt for the role of EPA Administrator. After being confirmed by the Senate on February 17, 2017, Pruitt faced substantial controversy during his time in this role. Most notably, many states and environmental groups took issue with Pruitt’s past as Oklahoma Attorney General, where he worked closely with coal and gas energy companies to attempt to weaken federal regulations of GHG emissions.⁵¹ Additionally, during his time as Oklahoma Attorney General, Pruitt filed fourteen lawsuits against the EPA, challenging its enforcement of various environmental regulations.⁵² However, after a series of ethical controversies,

⁴⁹ Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 82 Fed. Reg. 48035 (October 16, 2017) (codified at 40 C.F.R. pt. 60).

⁵⁰ 82 Fed. Reg. 16329.

⁵¹ Coral Davenport and Eric Lipton, “The Pruitt Emails: E.P.A. Chief Was Arm in Arm with Industry,” The New York Times, February 22, 2017, <https://www.nytimes.com/2017/02/22/us/politics/scott-pruitt-environmental-protection-agency.html>

⁵² Ibid.

including accusations of excessive spending and ties to lobbyists, Pruitt resigned from his position as EPA Administrator on July 5, 2018.⁵³

After Pruitt's resignation, President Trump named Andrew Wheeler as the acting EPA Administrator on July 9, 2018. Similar to Pruitt, Wheeler has been the subject of controversy, specifically in relation to his prior career as an energy lobbyist, where he represented a coal magnate who paid his former firm over \$2.7 million over an eight-year period.⁵⁴ Again, these practices raise questions regarding Wheeler's possible conflict of interest as the acting EPA Administrator, where he is charged with the duty of regulating these same energy groups he previously represented. Although Wheeler has provided details regarding his prior position as an energy lobbyist and the specific cases he worked on, there is still significant concern among environmental groups and activists of how Wheeler's ties to the energy industry will affect his role as acting EPA Administrator. Despite the transition between Pruitt and Wheeler, President Trump did not halt his efforts to end the "war on coal" and support job growth in the energy industry. On August 21, 2018, President Trump's EPA announced a proposed replacement rule to the CPP, called the Affordable Clean Energy ("ACE") Rule.⁵⁵ This rule differs from the CPP in that it is significantly less stringent in regard to GHG emission standards, and, in fact,

⁵³ Jeremy Diamond, Eli Watkins, and Juana Summers, "EPA Chief Scott Pruitt Resigns Amid Scandals, Citing 'Unrelenting Attacks,'" CNN, July 5, 2018, <https://www.cnn.com/2018/07/05/politics/scott-pruitt-epa-resigns/index.html>

⁵⁴ Lisa Friedman, "Andrew Wheeler, New E.P.A. Chief, Details His Energy Lobbying Past," The New York Times, August 1, 2018, <https://www.nytimes.com/2018/08/01/climate/andrew-wheeler-epa-lobbying.html>

⁵⁵ Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program, 83 Fed. Reg. 44746 (August 31, 2018) (codified at 40 C.F.R. pt. 51, 52, and 60).

does not contain numerical standards whatsoever.⁵⁶ Additionally, the proposed ACE Rule is estimated by the EPA to only reduce CO₂ emissions by 14 to 27 million tons, whereas the CPP was estimated to reduce emissions by approximately 415 million tons,⁵⁷ which would have had a far more substantial impact on the protection of the environment and human health. Additional differences and the implications of the proposed ACE Rule will be further discussed in later chapters.

This discussion regarding the proposed ACE Rule, however, requires a more detailed examination of the federal litigation that the CPP has undergone. More specifically, one must understand the specific components of the CPP from which opponents of the rule derived their arguments against it. These arguments are primarily based on the contention that the CPP gives the EPA too much power, which violates constitutional rights and the principles of federalism.⁵⁸ These arguments against the CPP, as well as the federal court cases that address them, will, therefore, be discussed in chapter two.

⁵⁶ Jessica Wentz, “6 Important Points About the ‘Affordable Clean Energy Rule,’” State of the Planet (blog), Columbia University, August 22, 2018, <https://blogs.ei.columbia.edu/2018/08/22/affordable-clean-energy-rule/>.

⁵⁷ Ibid.

⁵⁸ E&E News, “Your Guide to the Clean Power Plan in the Courts.”

CHAPTER TWO

Clean Power Plan

Before examining the federal litigation that has surrounded the Clean Power Plan (“CPP”) since the Final Rule was published in 2015, a discussion regarding the context with which the federal courts were viewing climate-related decisions leading up to it should take place. Specifically, the Supreme Court’s decision in *Massachusetts v. Environmental Protection Agency*,⁵⁹ where it determined that GHGs should be classified as air pollutants under the CAA and that the EPA does have the statutory authority to regulate emissions from new motor vehicles, set an important precedent for the future of GHG emission regulations.⁶⁰ Perhaps most significantly, *Massachusetts* led to the 2014 case *Utility Air Regulatory Group v. EPA*,⁶¹ which subsequently influenced the promulgation of the CPP, demonstrating the ways in which the Court’s decision in *Massachusetts* is still having an effect on federal climate litigation today.

Decided in 2007, *Massachusetts v. EPA* addresses the scientific finding that global temperature rise is being partially caused by the release of GHGs, and the argument among several states, local governments, and private organizations, that the EPA should be required to regulate four of these GHGs: CO₂, methane, NO_x, and

⁵⁹ *Massachusetts v. Environmental Protection Agency*, 549 U.S. 497 (2007).

⁶⁰ Nancy K. Kubasek and Gary S. Silverman, *Environmental Law* (Upper Saddle River, New Jersey: Pearson Prentice Hall, 2008), 185.

⁶¹ *Utility Air Regulatory Group v. Environmental Protection Agency*, 134 U.S. 2427 (2014).

hydrofluorocarbons.⁶² The Petitioners in the case, led by the state of Massachusetts, supported their argument that the EPA should be required to regulate these four GHGs by citing §202(a)(1) of the CAA, which states that the EPA “shall by regulation prescribe...standards applicable to the emission of any air pollutant from any class...of new motor vehicles which in [the EPA Administrator’s] judgment cause[s], or contribute[s] to, air pollution...reasonably...anticipated to endanger public health or welfare.”⁶³ On the other side, the EPA, supported by ten states and six trade organizations, denied Massachusetts’ petition to regulate these GHGs, arguing that the CAA does not give the EPA the authority to enforce mandatory regulations related to global climate change. Secondly, the EPA argued that, even if it was given the authority under the CAA to regulate GHG emissions, it would not do so because it is not “unequivocally established” that the emission of GHGs is causally linked to global temperature rise.⁶⁴ The EPA further justified its inaction through arguing that the President’s comprehensive plan regarding climate change would be compromised if the EPA was to attempt to issue a partial regulation of GHG emissions.⁶⁵ The EPA argued that the President’s efforts towards a reduction in global temperature rise, particularly in developing countries, would be thwarted by the amount of research, expense, and effort it would take for the EPA to establish a federally enforceable GHG reduction program.⁶⁶

⁶² 549 U.S. 497 (2007).

⁶³ Clean Air Act, 42 U.S.C. §7521(a)(1).

⁶⁴ 549 U.S. 497 (2007).

⁶⁵ Ibid.

⁶⁶ Ibid.

After the EPA's denial of their petition, Massachusetts, joined by eleven states, three cities, thirteen private organizations, and the American Samoa territory sought review in the D.C. Circuit Court of Appeals.⁶⁷ There, two of the three judges on the panel agreed that the EPA Administrator had the right to deny the petition asking for the EPA to regulate GHG emissions. One of these judges, Judge Raymond Randolph, stated that the EPA Administrator has the right to justify his denial of the petition through rationalizing that the science on the link between climate change and GHG emissions is not strong enough.⁶⁸ Judge Randolph also held that the EPA Administrator can deny the petition for other reasons, including that the United States' unilateral regulation of GHG emissions might hinder its efforts to encourage other countries, specifically developing countries to reduce their GHG emissions.⁶⁹ The second judge who upheld the EPA Administrator's right to deny the petition, Judge David Sentelle, stated that the Petitioners did not adequately establish standing for their argument under Article III of the Constitution, which only places "cases" or "controversies" under federal court jurisdiction, but also accepted the opposing review.⁷⁰ Legal standing refers to the "capacity of a party to bring suit in court,"⁷¹ and is a threshold issue, meaning that if a party does not have standing, the case will not be brought in front of a court. In the case *Lujan v. Defenders of Wildlife*,⁷² the Supreme Court established a three-prong test to

⁶⁷ 549 U.S. 497 (2007).

⁶⁸ Ibid.

⁶⁹ Ibid.

⁷⁰ Ibid.

⁷¹ "Standing," Legal Information Institute, <https://www.law.cornell.edu/wex/standing>.

⁷² *Lujan v. Defenders of Wildlife*, 504 U.S. 555 (1992).

determine whether a party has legal standing: the plaintiff must have experienced an “injury in fact,” there must be a causal connection between this injury and the defendant’s actions, and it must be probable that the Court’s decision will amend the injury.⁷³

Subsequently, *Massachusetts* reached the Supreme Court, where Petitioners asked the Court to answer two questions with regard to §202(a)(1) of the CAA, that is, “whether EPA has the statutory authority to regulate GHG emissions from new motor vehicles; and if so, whether its stated reasons for refusing to do so are consistent with the statute.”⁷⁴ In the majority opinion, authored by Justice John Paul Stevens, the Court held that the Petitioners do have standing to challenge the EPA’s refusal to grant the rulemaking petition. The Court struck down the EPA’s argument that the Petitioners did not have standing to sue under Article III of the Constitution. Rather, the Court stated, the action that Petitioners took against the EPA is authorized by Congress and is, therefore, adequate to be resolved by a federal court. The Court justified its holding that Massachusetts does have standing by reasoning that it is a sovereign state that owns a large portion of the territory, including coastal territory, that is affected by the EPA’s inaction in this case. Furthermore, the Court distinguished this case from *Lujan v. Defenders of Wildlife*⁷⁵ by stating that, in *Lujan*, the Petitioner was a private individual who, unlike Massachusetts, did not personally own the territory that was allegedly being harmed. The Court held that the “EPA’s steadfast refusal to regulate GHG emissions

⁷³ Legal Information Institute, “Standing.”

⁷⁴ 549 U.S. 497 (2007).

⁷⁵ 504 U.S. 555 (1992).

presents a risk of harm to Massachusetts that is both ‘actual’ and ‘imminent.’”⁷⁶

Moreover, the Court held that the relief requested in this case will provide substantial encouragement to the EPA to work to reduce this risk.

The Court further justified that the Petitioners do have standing by stating that climate change has been researched extensively enough by relevant science to be determined as having effects that are well recognized and serious.⁷⁷ The Court stated that the government’s research has concluded that global climate change has and will continue to cause a rise in sea levels, changes to natural ecosystems, a decrease in winter snowpack, and an increase in extreme weather events and diseases. The Court held that Massachusetts is suffering directly from these consequences, which can be seen through the flooding of the state’s coasts by approximately ten to twenty centimeters over the twentieth century due to global sea level rise.⁷⁸ Furthermore, the Court held that the EPA is contributing to the injuries of the Petitioners through its refusal to disprove the causal link between GHG emissions and global climate change. The Court struck down the EPA’s argument that its inaction is justifiable given the fact that it affects the Petitioner’s injuries to such a limited or insignificant manner. The EPA also argued that a federal policy to combat climate change would be relatively ineffective due to the extremely high rate of pollution emissions by countries such as China and India, as well as developing nations.⁷⁹ The Court countered this argument by stating that no federal policy is able to resolve a problem as extensive as climate change in one day. Rather, the Court reasoned,

⁷⁶ 549 U.S. 497 (2007).

⁷⁷ Ibid.

⁷⁸ Ibid.

⁷⁹ Ibid.

issues such as these must be tackled in multiple steps and over a lengthy period of time in order to be adequately addressed. Furthermore, the Court argued that its jurisdiction “to decide whether EPA has a duty to take steps to slow or reduce [climate change]”⁸⁰ is not negated by the fact that a federal policy requiring the reduction in GHG emissions from new motor vehicles will not necessarily reverse or put an end to it.⁸¹

In the majority opinion on *Massachusetts*, the Court refuted the EPA’s argument that it did not have authority under §7521(a)(1) of the CAA to regulate GHG emissions from new motor vehicles due to the fact that CO₂ is not listed as an “air pollutant” under §7602 of the CAA.⁸² The EPA also argued that, even if it did hold the authority under the CAA to regulate new motor vehicle emissions, it would refuse to do so because the regulation would conflict with other policies it has put forth. The Court countered both of these arguments by citing §7607(b)(1) of the CAA, which states that the Court can review such actions, and, also, may “reverse [it if it finds it to be] arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law.”⁸³ The Court refuted the EPA’s argument that it does not have the statutory authority to regulate GHGs, arguing that GHGs do, in fact, fit well within the CAA’s definition of “air pollutant.” The Court justified its argument by citing the CAA’s definition of air pollutant, which is “any air pollution agent...including any physical, chemical...substance...emitted into...the ambient air.”⁸⁴ GHGs, the Court subsequently held, including CO₂, clearly fit within this

⁸⁰ 549 U.S. 497 (2007).

⁸¹ *Ibid.*

⁸² *Ibid.*

⁸³ 42 U.S.C. §7607(d)(9).

⁸⁴ 42 U.S.C. §7602(g).

definition as they are categorized as physical and chemical substances. The Court also refuted the EPA's argument that a regulation of GHG emissions from motor vehicle sources would overstep the regulatory bounds that Congress has placed on the Department of Transportation ("DOT"). On the contrary, the Court stated that, just because an EPA regulation would require motor vehicles to have stricter mileage standards, which may, subsequently, cross over with standards imposed by the DOT, does not cancel out the EPA's duty to enact its own environmental policies and regulations.⁸⁵

In *Massachusetts*, the EPA made an additional argument that, even if it had the statutory authority to regulate GHGs, it would decline to do so because it is "unwise to do so at this time."⁸⁶ In its majority opinion, the Court refuted this argument on the basis that it does not align with the statutory text of the CAA. That is, the EPA can only decide for itself whether or not it wants to establish regulations if "it determines that GHGs do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do."⁸⁷ However, the Court held, the reasoning the EPA has given as to why it views it as unwise to regulate GHGs is related to irrelevant policy judgments, not whether GHGs contribute to climate change.⁸⁸ Because the EPA refused to base its reasoning for denying the Petitioner's rulemaking petition on relevant science concerning whether or not GHGs contribute to climate change, and, instead, provided impermissible reasons for its refusal, the Court

⁸⁵ 549 U.S. 497 (2007).

⁸⁶ *Ibid.*

⁸⁷ *Ibid.*

⁸⁸ *Ibid.*

ruled that the EPA's actions were "arbitrary, capricious, or otherwise not in accordance with law."⁸⁹ In conclusion, the Court reversed the judgment of the D.C. Circuit Court of Appeals and held that the EPA must justify its reasons for action or inaction in the statute.⁹⁰

In sum, in its *Massachusetts* decision, the Court ruled that the EPA had three options with which it could choose to move forward. The EPA could either:

(a) make a positive "endangerment finding," meaning that it could decide to recognize that GHG emissions from new motor vehicles were harmful to public health and the environment and regulate accordingly; (b) decide that GHG emissions from new motor vehicles were not harmful to public health or welfare and therefore were not an endangerment; or (c) decide not to make a decision at all, but the EPA was required to fully explain this decision if that is the route it chose to take.⁹¹

The EPA ended up choosing the first option, option (a), and making an endangerment finding in 2009 under the next administration regarding the harmful effects GHG emissions from new motor vehicles have on public health and welfare.⁹² Given this endangerment finding, §202 of the CAA subsequently required the EPA to establish new standards and regulations for GHG emissions from new motor vehicles.⁹³ In addition to these new motor vehicle standards, the EPA began to set regulations for major new stationary sources of GHG emissions and alter regulations for existing stationary sources. This was done due to the EPA's interpretation that the new motor vehicle emission

⁸⁹ 42 U.S.C. §7607(d)(9).

⁹⁰ 549 U.S. 497 (2007).

⁹¹ "Federal Agency Actions Following the Supreme Court's Climate Change Decision in *Massachusetts v. EPA*: A Chronology," *Congressional Research Service* (2015): 1.

⁹² *Ibid.*, 1.

⁹³ *Ibid.*, 1.

standards it set as a result of its compliance with the decision in *Massachusetts* triggered standards to be set for stationary sources as well.⁹⁴ It was these standards that required new stationary sources and existing stationary sources that had undergone major modification to undergo “new source review” when they were proposed for PSD areas. These sources were subsequently required to install BACT in order to reduce their emissions of GHGs.⁹⁵ This process, known as the “PSD trigger” was subsequently rejected by the Supreme Court in the 2014 case *Utility Air*.⁹⁶ Nevertheless, the Court’s decision in *Massachusetts* is particularly influential in that it, in many ways, set the precedent for the Obama Administration’s 2015 CPP. That is, the Court’s ruling in *Massachusetts* requiring the EPA to regulate CO₂ emissions set the stage for the purposes with which the CPP was promulgated, which were to reduce CO₂ emissions from coal-fired power plants 32% below 2005 levels by 2030.⁹⁷

The CPP is significant in that it is the first rule that has ever been promulgated with the purpose of setting national standards to reduce CO₂ pollution from existing power plants. However, the CPP’s goal of achieving lower carbon levels in the atmosphere as a means to reduce the threat of climate change is not the only aim of the rule. Decreasing the amount of CO₂ in the atmosphere will also significantly lessen the damage to public health and welfare the toxic pollutant and other GHG are known to

⁹⁴ “Federal Agency Actions Following the Supreme Court’s Climate Change Decision in *Massachusetts v. EPA*: A Chronology,” 1.

⁹⁵ *Ibid.*, 1.

⁹⁶ *Ibid.*, 2.

⁹⁷ “What is the Clean Power Plan?” E&E’s Power Plan Hub, E&E News, https://www.eenews.net/interactive/clean_power_plan/fact_sheets/rule.

cause.⁹⁸ In promulgating the Final Rule of the CPP, the Obama Administration and the EPA took into consideration the opinions of the states and the public, which can be seen in the fact that the rule does not set stringent requirements on states and energy companies in terms of meeting emission standards. This allows them to still be economically successful while slowly cutting down on their emissions of harmful pollutants and simultaneously working towards the use of clean and renewable energy.⁹⁹ The CPP derives authority under §111(d) of the CAA, which calls for the EPA, states, tribes, and U.S. territories to work harmoniously together to decrease the amount of pollutants in the air.¹⁰⁰ More specifically, §111(d) calls for the EPA to set the standards, and for the states, tribes, and U.S. territories to come up with a plan for how they will meet those standards.¹⁰¹

The CPP operates through the EPA setting standards for interim and final CO₂ emissions for the two types of electric generating units (“EGUs”) that are powered by fossil fuels. These two types of EGUs are (1) fossil fuel-fired electric steam generating units, examples of which include oil and coal-fired power plants; and (2) natural gas-fired combined cycle generating units.¹⁰² Under the CPP, the EPA allows states to determine for themselves how they would like to meet emission standards. The states can choose either:

⁹⁸ “Fact Sheet: Overview of the Clean Power Plan,” Clean Power Plan, U.S. EPA, <https://archive.epa.gov/epa/cleanpowerplan/fact-sheet-overview-clean-power-plan.html>.

⁹⁹ Ibid.

¹⁰⁰ Ibid.

¹⁰¹ Ibid.

¹⁰² Ibid.

(1) a state goal that is rate-based and is measured in pounds per megawatt hour (lb./MWh); (2) a state goal that is mass-based and measured in total short tons of carbon dioxide; or (3) a state goal that is mass-based with a new source component measured in total short tons of carbon dioxide.¹⁰³

First enacted by the CAA, the CPP requires states to establish SIPs for which, in the interim period between 2022 and 2029, their power plants will be able to meet the CO₂ emission performance standards. The SIPs must also be able to meet CO₂ emission performance standards by 2030, which is the final period.¹⁰⁴ The Final Rule of the CPP thus aligns with its stated intent to provide flexibility to states in implementing plans to meet regulation standards through “setting source-level, source category-wide standards that sources can meet through a variety of technologies and measures.”¹⁰⁵ Under the CPP, states are allowed flexibility in terms of which energy source they will utilize in place of coal. States are also allowed to determine for themselves exactly how much they will decrease their use of coal, as there is no one size fits all regulation that is established under the CPP.¹⁰⁶ Furthermore, the CPP gives companies the opportunity to use “allowances,” which they can buy or sell in order to balance or offset their CO₂ emissions.¹⁰⁷

Under the CPP, states have the option between two types of plans when deciding upon and establishing their SIPs in accordance with the requirements of the Final Rule. The first of these options is an “emission standards” approach, where the state

¹⁰³ U.S. EPA, “Fact Sheet: Overview of the Clean Power Plan.”

¹⁰⁴ Ibid.

¹⁰⁵ Ibid.

¹⁰⁶ E&E News, “What is the Clean Power Plan?”

¹⁰⁷ Ibid.

implements the emission standards that were drawn up by the federal government and enforces them directly on the EGUs that qualify to be regulated.¹⁰⁸ The second option is a “state measures” approach, where the state is able to combine the federal emission standards with their own, state-based regulations, such as renewable energy sources.¹⁰⁹ However, if a state chooses the “state measures” approach, they must agree that, if they fail to meet the emission standards set by the CPP, they will automatically fall subject to federal emission standards.¹¹⁰ Additionally, the federal government created a Federal Implementation Plan (“FIP”) to be used in the case that a state refuses to draw up their own, or if the plan they do bring forth does not meet federal standards.¹¹¹ This FIP, published in the *Federal Register* on the same day as the CPP, provides two options for states to choose between, one being a rate-based trading program and the second being a mass-based trading program.¹¹²

The Final Rule of the CPP contains some differences from the Proposed Rule, specifically relating to the methodology the EPA used in creating the national CO₂ emissions performance rates and the state-specific emission rate and mass-based targets.¹¹³ Furthermore, when the EPA published one of the Proposed Rules of the CPP in 2014, many groups took issue with 2012 being the baseline year by which the EPA

¹⁰⁸ Jonathan L. Ramseur and James E. McCarthy, “EPA’s Clean Power Plan: Highlights of the Final Rule,” *Congressional Research Service* (2016): 2.

¹⁰⁹ *Ibid.*, 3.

¹¹⁰ *Ibid.*, 3.

¹¹¹ *Ibid.*, 3.

¹¹² *Ibid.*, 3.

¹¹³ *Ibid.*, ii.

determined the targets for emission rates.¹¹⁴ However, in the Final Rule of the CPP, the EPA went forward with 2012 as the baseline year to set targets but made adjustments regarding this detail to soothe some of these concerns. One of the most significant of these adjustments was that, since 2012 was an “outlier” year and there was much more snow than usual, many states utilized an above average amount of hydropower and thus the state specific targets were thrown off.¹¹⁵ In the Final Rule of the CPP, EPA adjusted these levels of hydropower, which is energy that is produced from moving water,¹¹⁶ and made other state-specific adjustments similar to this.¹¹⁷ Additional differences between the Final Rule and the Proposed Rule include an increase in the significance of renewable energy, the elimination of at-risk nuclear power generating and under-construction nuclear capacity in the calculations for emission rates.¹¹⁸ And although states were still permitted to use “qualified biomass,” a renewable energy source derived from plants and animals,¹¹⁹ as a way to meet emission reduction standards in the Final Rule, it was narrower in its approach to this allowance than the Proposed Rule had been.¹²⁰

There was, however negative response to the CPP from states and industry groups who argued that the EPA overstepped its regulatory authority in promulgating and

¹¹⁴ Ramseur and McCarthy, “EPA’s Clean Power Plan: Highlights of the Final Rule,” 8.

¹¹⁵ Ibid., 8.

¹¹⁶ “Hydropower Explained,” U.S. Energy Information Administration, https://www.eia.gov/energyexplained/index.php?page=hydropower_home.

¹¹⁷ Ramseur and McCarthy, “EPA’s Clean Power Plan: Highlights of the Final Rule,” 8.

¹¹⁸ Ibid., 8-9.

¹¹⁹ “Biomass Explained,” U.S. Energy Information Administration, https://www.eia.gov/energyexplained/?page=biomass_home.

¹²⁰ Ramseur and McCarthy, “EPA’s Clean Power Plan: Highlights of the Final Rule,” 10.

attempting to enact the rule.¹²¹ In 2016, these arguments were brought in front of the D.C. Circuit Court of Appeals in the case *West Virginia v. EPA*.¹²² In this case, twenty-six states, along with various industry groups, such as utility, public power, and coal mining groups, brought suit against the EPA in an attempt to stop the CPP from going into effect.¹²³ One of the primary arguments made by the Petitioners was that the CPP violates §111(d) of the CAA “by requiring standards that can be met only with ‘generation shifting,’ or by shutting down coal-fired power and replacing it with natural gas or renewable energy.”¹²⁴ Petitioners argued that the CPP illegally enacts regulations that individual power plants cannot meet on their own. Petitioners also argued that the CPP is illegal in that, under the rule, the EPA would be required to regulate power plants under both §111(d) of the CAA and §112, which calls for the regulations of hazardous air emissions.¹²⁵ Petitioners also raised Constitutional concerns, arguing that “the rule illegally meddles in state regulatory programs and violates principles of federalism.”¹²⁶ Petitioners primarily grounded this argument on the basis that the CPP breaches the authority of the states by forcing them to regulate power in their own state, therefore violating their tenth amendment rights. Furthermore, Petitioners argued that the EPA violates the Administrative Procedures Act in that the first Proposed Rule of the CPP

¹²¹ Emily Holden, “EPA’s Clean Power Plan Does Well in Court,” *Scientific American*, September 28, 2016, <https://www.scientificamerican.com/article/epa-s-clean-power-plan-does-well-in-court/>.

¹²² *West Virginia v. Environmental Protection Agency*, 136 S.Ct. 1000 (2016).

¹²³ “E&E’s Power Plan Hub,” E&E News, https://www.eenews.net/interactive/clean_power_plan.

¹²⁴ “D.C. Circuit Oral Argument Tipsheet,” E&E’s Power Plan Hub, E&E News, https://www.eenews.net/interactive/clean_power_plan/fact_sheets/legal_dc_circuit_oral_argument_tipsheet

¹²⁵ *Ibid.*

¹²⁶ *Ibid.*

drastically differs from the Final Rule. Because of this, Petitioners stated, the public was not given the proper amount of time to comment on the provisions of the Final Rule.¹²⁷ Petitioners specifically referred to the Final Rule's uniform national CO₂ emissions performance rates, which were not mentioned in the first draft of the CPP.¹²⁸ Petitioners also raised questions regarding technical aspects of the CPP, including arguments that the rule could disturb the electric grid and that the numeric targets and goals of the rule are not feasible.¹²⁹

The Respondents in *West Virginia v. EPA*, comprised of the EPA joined by eighteen states, green and public health groups, and clean energy industry groups, defended the legality of the CPP, holding that the EPA does have the regulatory authority to establish and enforce the rule.¹³⁰ To support this argument, Respondents pointed to previous Supreme Court rulings that established the EPA's statutory authority to regulate GHG emissions under the CAA.¹³¹ Ultimately, the D.C. Circuit Court of Appeals denied the Petitioner's request to issue a stay on the CPP.¹³² Following this, Petitioners "moved on to the Supreme Court, filing five separate applications for stay EPA's rule pending judicial review in the D.C. Circuit."¹³³ In their applications for stay to the Supreme Court,

¹²⁷ E&E News, "D.C. Circuit Oral Argument Tipsheet."

¹²⁸ Ibid.

¹²⁹ Ibid.

¹³⁰ "Battle Lines," E&E's Power Plan Hub, E&E News, https://www.eenews.net/interactive/clean_power_plan/fact_sheets/legal_battle_lines.

¹³¹ Ibid.

¹³² Lisa Heinzerling, "The Supreme Court's Clean-Power Grab," *Georgetown Environmental Law Review* 28 (2015): 425.

¹³³ Ibid., 425.

Petitioners did not file petitions for certiorari, nor did they argue against the D.C. Circuit’s denial of their request for a stay.¹³⁴ The only action the Petitioners directly argued against was the CPP itself.¹³⁵ On February 9, 2016, the Court granted the Petitioner’s request in issuing a stay on the CPP. This was significant in that it marked the first time the Court has ever halted the implementation of a national rule “prior to an initial decision on the merits of the rule in a lower court.”¹³⁶ Following the issue of the stay, Justice Antonin Scalia, who had been the deciding vote in the 5-4 decision, died on February 13, 2016, in Shafter, Texas.¹³⁷ This left a vacancy in the Court and spelled uncertainty for the future of the CPP.¹³⁸

The possibility for enforcement of the CPP has been diminished by the Trump Administration’s stated desire to end the “war on coal.” Thus, efforts to achieve energy independence and increase job growth in the coal industry can be seen through the Trump Administration’s proposed repeal of the CPP in 2017,¹³⁹ and the issuing of a proposed replacement rule, the ACE Rule, in 2018.¹⁴⁰ Despite the Trump Administration’s attempts

¹³⁴ Heinzerling, “The Supreme Court’s Clean-Power Grab,” 425.

¹³⁵ Ibid., 425.

¹³⁶ Ibid., 425.

¹³⁷ Amy Brittain and Sari Horwitz, “Texas Sheriff’s Report Reveals More Details on Supreme Court Justice Scalia’s Death,” The Washington Post, September 23, 2016, https://www.washingtonpost.com/world/national-security/texas-sheriff-releases-report-on-supreme-court-justice-scalias-death/2016/02/23/8c0bdb0c-da82-11e5-891a-4ed04f4213e8_story.html?utm_term=.858838dbbef8.

¹³⁸ “Overview and Litigation Timeline,” E&E’s Power Plan Hub, E&E News, https://www.eenews.net/interactive/clean_power_plan/fact_sheets/legal.

¹³⁹ Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 82 Fed. Reg. 48035 (October 16, 2017) (codified at 40 C.F.R. pt. 60).

¹⁴⁰ Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program, 83 Fed. Reg. 44746 (August 31, 2018) (codified at 40 C.F.R. pt. 51, 52, and 60).

to save the coal industry, however, research has shown that the coal industry is declining regardless of the policy in place.¹⁴¹ Chapter three will discuss the factors that have led to the decline of the coal industry and the implications this will have on the future of climate policy.

¹⁴¹ Jeff Goodell, “The Coming Decline and Fall of Big Coal,” Rolling Stone, September 28, 2011, <https://www.rollingstone.com/politics/politics-news/the-coming-decline-and-fall-of-big-coal-104420/>.

CHAPTER THREE

The Decline of the Coal Industry

One of the Trump Administration EPA's reasons for replacing the Clean Power Plan ("CPP") with the proposed Affordable Clean Energy ("ACE") Rule is to save jobs for American workers in the coal industry. President Trump has been outspoken regarding his intention to achieve this through reversing many of the stringent regulations placed on coal during the previous administration, sometimes referred to as the "war on coal." Despite the rhetoric dictated by both political parties, the recent decline in the market share of coal has remained largely undisputed. However, environmental regulations only account for one explanation for the coal industry's rapid downfall, with other explanations including the decrease in the price of natural gas and the deregulation of the railroads in the 1980s.¹⁴² Regardless, the coal industry's decline has prompted valuable consideration and insight into the full impact of coal-fired power plants both domestically and internationally, causing many to advocate for a considerable decrease in the use of coal in the future.

Since President Trump's election, multiple rules that placed restrictions on the coal industry have been eliminated. One of these rules, known as the Stream Protection Rule of December 2016, was canceled by the 114th United States Congress shortly after the term began.¹⁴³ Congress derived the authority to do this under the Congressional

¹⁴² Charles D. Kolstad, "What is Killing the US Coal Industry?" Stanford Institute for Economic Policy Research, March 2017, <https://siepr.stanford.edu/sites/default/files/publications/PolicyBrief-Mar17.pdf>.

¹⁴³ Ibid., 1.

Review Act, which states that Congress can vote to cancel rules that have been enacted within the last six months.¹⁴⁴ The Stream Protection Rule of December 2016 was an update of the 1977 Surface Mining Control and Reclamation Act (“SMCRA”),¹⁴⁵ which places regulations on surface coal mining for the purpose of protecting the surrounding land and living organisms that may otherwise be adversely affected by surface coal mining.¹⁴⁶ Under the rule, “mine operators are required to minimize disturbances and adverse impact on fish, wildlife, and related environmental values and achieve enhancement of such resources where practicable.”¹⁴⁷ Furthermore, SMCRA extends to damage that underground mining may cause to land or animals on the Earth’s surface and prioritizes the restoration of damaged or contaminated land or water among the rule’s requirements.¹⁴⁸ Congress voted to cancel the Stream Protection Rule in order to alleviate the restrictions that many believe such environmental regulations place on the coal industry.¹⁴⁹ And, by getting rid of these restrictions, Congress sought to mitigate the dramatic decline in federal and state coal output that has thus caused a significant decrease in employment in the coal industry.¹⁵⁰ However, the cancelation of the updated Stream Protection Rule is only one of the large steps President Trump has taken to

¹⁴⁴ Kolstad, “What is Killing the US Coal Industry?” 1.

¹⁴⁵ Surface Mining Control and Reclamation Act of 1977, 30 U.S.C. Ch. 25 §1201 et seq.

¹⁴⁶ “Surface Mining Control and Reclamation Act,” Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service, U.S. Fish and Wildlife Service, <https://www.fws.gov/laws/lawsdigest/surfmin.html>.

¹⁴⁷ Ibid.

¹⁴⁸ Ibid.

¹⁴⁹ Kolstad, “What is Killing the US Coal Industry?” 1.

¹⁵⁰ Ibid., 1.

alleviate federal environmental regulations during this term. One of the most significant actions taken by President Trump is the repeal and proposed replacement of the CPP due to the contention that it was the sole cause of the recent steep decline in the coal industry and thus must be reversed in order to end the “war on coal.”

Although opinions regarding the appropriate level of restrictions to place on coal-fired power plants vary widely, both political parties agree that the coal industry has undergone rapid decline in recent years. When considering the timeline of coal production in the United States, it is imperative to consider the rise of coal in the second half of the Twentieth Century.¹⁵¹ As can be seen in Figure 1 on the following page titled “Tons of Coal Output Per Year, by Year for Eastern U.S., Western U.S., and Total U.S. (1949-2015),”¹⁵² the western region of the United States in particular experienced rapid growth in coal output following the end of World War II.¹⁵³ The eastern region of the United States on the other hand, characterized by the area east of the Mississippi River, also experienced growth in coal in the second half of the Twentieth Century, but began to decline beginning in the 1990s.¹⁵⁴ This came about two decades before total coal output in the United States reached its peak in 2008, after which the amount of coal production has rapidly dropped.¹⁵⁵ This decline includes a decrease in the number of coal-fired power plants, as the numbers show that there were 580 plants in 2010 and less than 350

¹⁵¹ Kolstad, “What is Killing the US Coal Industry?” 2.

¹⁵² Ibid., 2.

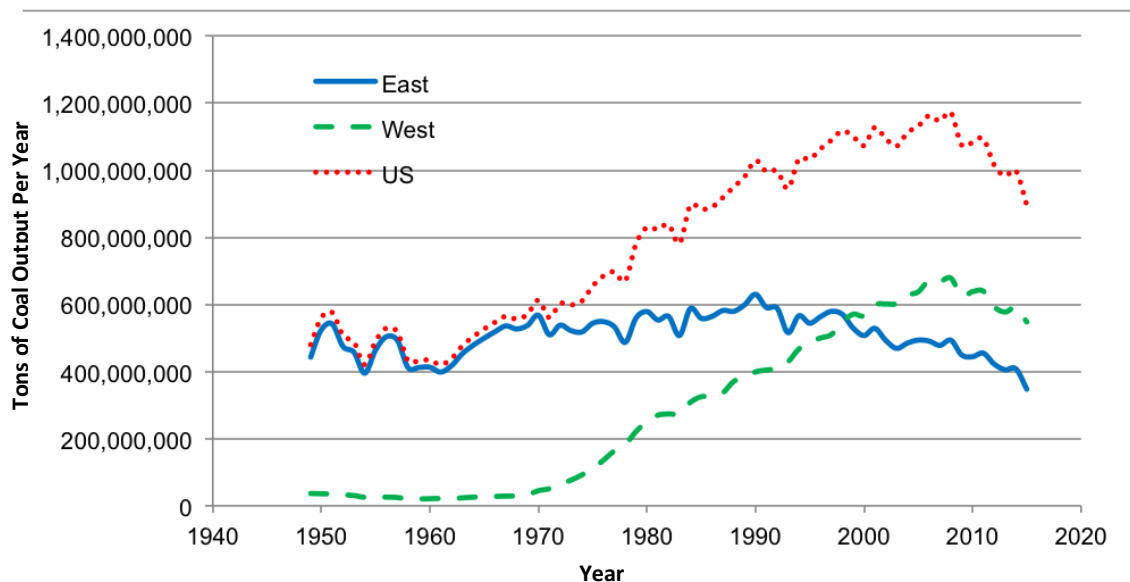
¹⁵³ Ibid., 1.

¹⁵⁴ Ibid., 1.

¹⁵⁵ Ibid., 1.

plants in 2018.¹⁵⁶ Furthermore, by 2025 another 40 plants are scheduled to either lower their output capacity or close entirely.¹⁵⁷ In 2010, forty-five percent of the United States' electricity came from coal, whereas, in 2018, its market share had fallen to thirty percent.¹⁵⁸ According to *The New York Times*, this significant decline in market share can be attributed to “competition from cheap natural gas, state efforts to boost renewables, and stricter pollution rules.”¹⁵⁹

Figure 1: Tons of Coal Output Per Year, by Year for Eastern U.S., Western U.S., and Total U.S. (1949-2015)



Despite the steady growth in the rate of coal production in the United States during the second half of the Twentieth Century and up until its peak in 2008, employment in the industry has historically been on the decline for a significant amount

¹⁵⁶ Brad Plumer and Nadja Popovich, “Trump Wants to Bail Out Coal and Nuclear Power. Here’s Why That Will Be Hard,” *New York Times*, June, 13, 2018, <https://www.nytimes.com/interactive/2018/06/13/climate/coal-nuclear-bailout.html?module=inline>.

¹⁵⁷ Ibid.

¹⁵⁸ Ibid.

¹⁵⁹ Ibid.

of time.¹⁶⁰ In fact, as can be seen in Figure 2 on the following page titled “Employment in Coal Mining, National, Western U.S. and Eastern U.S. (FTE: Full-Time Equivalent),”¹⁶¹ employment in coal mining reached its peak around 1950 and has been on a general decline since.¹⁶² There have, however, been a few times of growth to offset this general decline, such as in the mid-1950s as well as a large surge of growth in the 1970s and beginning of 1980s.¹⁶³ The most recent employment boom took place around 2010 but was short-lived and employment has been on a steady decline ever since.¹⁶⁴ In fact, the number of workers employed in coal mines in March 2018 was about 52,000, which is approximately two-thirds less than the total number of employees in 1985.¹⁶⁵ Furthermore, Figure 2 displays that employment in coal mining in the eastern region of the United States has been significantly higher than in the west, despite the fact that the majority of the nation’s coal is located in the west.¹⁶⁶ This decrease in employment numbers is one of President Trump’s primary concerns that has lead him to roll back environmental regulations that impose strict standards on coal-fired power plants. Increasing employment in the fossil fuel industry was one of the primary points of

¹⁶⁰ Kolstad, “What is Killing the US Coal Industry?” 2.

¹⁶¹ Ibid., 2.

¹⁶² Ibid., 2.

¹⁶³ Ibid., 2.

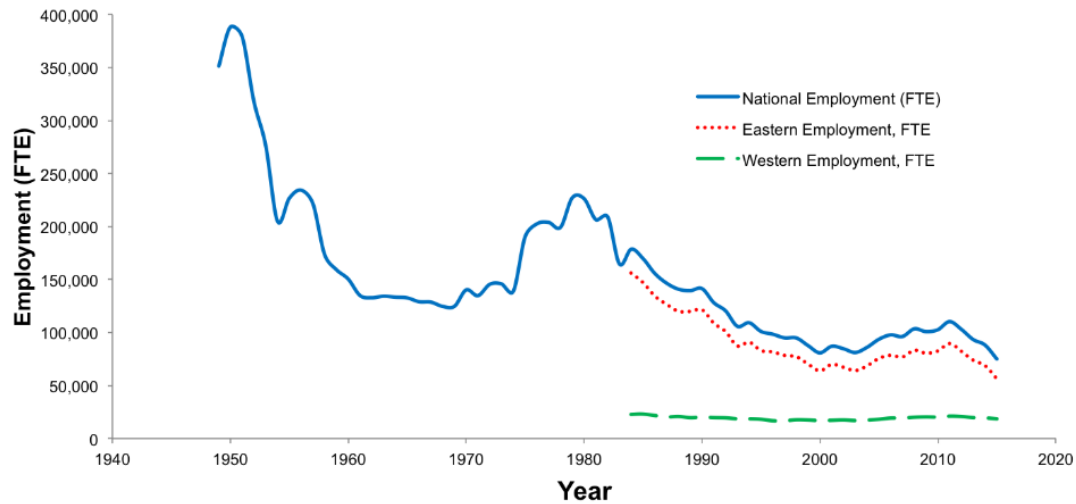
¹⁶⁴ Ibid., 2.

¹⁶⁵ Reid Wilson, “Coal Industry Mired in Decline Despite Trump Pledges,” The Hill, March 4, 2018, <https://thehill.com/homenews/state-watch/376522-coal-industry-mired-in-decline-despite-trump-pledges>.

¹⁶⁶ Kolstad, “What is Killing the US Coal Industry?” 2.

Trump’s presidential campaign, with the promise to “lift restrictions on American energy – including shale oil, natural gas and beautiful, clean coal.”¹⁶⁷

Figure 2: Employment in Coal Mining, National, Western U.S. and Eastern U.S. (FTE: Full-Time Equivalent)



Despite President Trump’s repeal of the CPP and proposal of the ACE Rule in order to mitigate this decline in coal production and employment in the industry, some argue that the implementation of more lax regulations will not offset this decline. In fact, there are many different factors that may explain the recent decline in coal production, with environmental regulations only constituting one of these possible explanations. Another possible reason to explain the downfall of coal, particularly in the eastern United States, is the deregulation of the railroads in the 1980s.¹⁶⁸ The deregulation officially occurred under the Staggers Rail Act of 1980 after which rail rates per ton mile fell about fifty percent in the next twenty years.¹⁶⁹ Most significantly, however, is the impact that

¹⁶⁷ Kolstad, “What is Killing the US Coal Industry?” 1.

¹⁶⁸ Ibid., 4.

¹⁶⁹ Ibid., 4.

the deregulation of the railroads had on the relationship between the western United States versus the eastern United States in terms of coal output and competition. The deregulation of the railroads by the Staggers Rail Act allowed for major expansion of coal in the west, and thus causing the downfall of coal in the east due to competition.¹⁷⁰ This is because the significantly lower railroad rates allowed coal produces in the west to travel all over the nation at a much lower expense than it was previously.¹⁷¹ An example of this phenomenon can be seen through the North-Antelope-New Rochelle mine, which transports coal to areas all over the eastern United States despite being locating in Wyoming. The reason for the wide transport of the North Antelope-New Rochelle's coal is that it is currently the largest coal mine in the country and, in 2014, it produced about ten percent of the nation's coal output.¹⁷² The deregulation of the railroads allowed coal mines as far west as Wyoming to transport coal all over the United States by the most cheap and efficient means possible, significantly contributing to the decline of the eastern United States' coal market.¹⁷³

Another possible factor for the decline in the coal industry relates to a decrease in the price of natural gas which has thus rendered coal less of a competitor in the market.¹⁷⁴ The reason behind the decline in the price of natural gas is fracking, which is also known as hydraulic fracturing, and is “a technique designed to recover gas and oil from shale

¹⁷⁰ Kolstad, “What is Killing the US Coal Industry?” 4.

¹⁷¹ Ibid., 4.

¹⁷² Ibid., 4.

¹⁷³ Ibid., 4.

¹⁷⁴ Ibid., 5.

rock.”¹⁷⁵ Technically, the process involves the injection of chemicals, water, and sand into rock below the surface of the earth, which causes gas to be released.¹⁷⁶ The growth in the popularity of fracking, paired with the effectiveness of horizontal drilling and “the exploitation of unconventional gas deposits”¹⁷⁷ has had a significant impact on the future of natural gas and oil in the United States.¹⁷⁸ Since fracking has gained momentum in the United States, natural gas has been large in supply and low in price.¹⁷⁹ And while natural gas has been steadily increasing in terms of overall electricity generation in the United States, coal has been in decline. The low price of natural gas, which has continued to drop since 2009, has driven down the competitiveness of coal in the market, significantly contributing to its decline.¹⁸⁰ This opportune time for natural gas has also influenced certain older coal-fired power plants that had been constructed in the 1940s or 1950s to be shut down.¹⁸¹ Finally, alongside the growth in natural gas, renewable energy sources such as solar, wind, hydropower are also beginning to pose a threat to the coal industry as well, particularly in today’s climate where many are concerned with the effects certain energy sources have on the environment.¹⁸²

¹⁷⁵ “What is Fracking and Why Is It Controversial?” BBC News, BBC, October 15, 2018, <https://www.bbc.com/news/uk-14432401>.

¹⁷⁶ Ibid.

¹⁷⁷ Kolstad, “What is Killing the US Coal Industry?” 5.

¹⁷⁸ Ibid., 5.

¹⁷⁹ Ibid., 5.

¹⁸⁰ Ibid., 5.

¹⁸¹ Ibid., 5.

¹⁸² Ibid., 5.

In considering these alternative explanations that may account for the recent decline in the coal industry, it is also imperative to discuss the position that says environmental regulations are the reasoning behind the coal industry's downfall. In short, this argument states that the coal industry's recent decline is due to the continued existence and use of coal-fired power plants that should have been retired years ago but have not due to certain environmental regulations.¹⁸³ In order to fully examine this argument, however, one must return to 1970, when many coal-fired power plants began to utilize a process known as low-sulfur coal mining.¹⁸⁴ Plants were forced to do this because it was the most efficient means by which to produce coal while still satisfying the newly enacted 1970 sulfur emission regulations.¹⁸⁵ However, this began to become a problem, as the high-sulfur coal that was being manufactured in the eastern United States could not compete with the high demand for its low-sulfur counterpart in the west.¹⁸⁶ Thus, in 1977, the Clean Air Act ("CAA") was amended "to require equipment on all new coal-fired power plants to physically remove sulfur from the smokestacks after combustion, reducing the attractiveness of low-sulfur coal."¹⁸⁷ This occurred because the amendment rendered both high-sulfur coal and low-sulfur coal "compliance coal,"¹⁸⁸ therefore decreasing the appeal of low-sulfur coal through making all coal uniform in

¹⁸³ Kolstad, "What is Killing the US Coal Industry?" 4.

¹⁸⁴ Ibid., 3.

¹⁸⁵ Ibid., 3.

¹⁸⁶ Ibid., 3.

¹⁸⁷ Ibid., 3.

¹⁸⁸ Ibid., 3.

attractiveness.¹⁸⁹ This amendment was partially intended to aid coal mining employment in the east, and it was effective in doing so through lowering the competitiveness of western coal and thus allowing for more expansion in the eastern coal industry.¹⁹⁰ However, the 1977 CAA amendment also had some unintended negative effects on the coal industry as a whole that some argue led to the eventual decline in the coal industry that is occurring today.

The 1977 CAA amendments, which were enacted partially for the purpose of relieving the strain that the high demand for western low-sulfur coal had had on the coal industry in the east, also had another component that ended up having a significant impact on the future of the coal industry. This component in the 1977 CAA amendment allowed for coal-fired power plants that had been installed prior to 1970 to qualify for an exemption from the sulfur reduction standards.¹⁹¹ This exemption, referred to as the “grandfathering clause,” was not a controversial feature of the amendment because it was anticipated that the plants that were exempt from the sulfur emission requirements would be retired at the end of the typical lifespan of a coal-fired power plant, which is about forty to fifty years.¹⁹² However, the 1977 CAA exemption “provided an incentive to keep old and dirty power plants operating rather than retire, despite the higher operating costs of old plants.”¹⁹³ Older power plants were also incentivized to keep operating due to the desire to avoid triggering New Source Review, which is a program under the 1977 CAA

¹⁸⁹ Kolstad, “What is Killing the US Coal Industry?” 3.

¹⁹⁰ Ibid., 3.

¹⁹¹ Ibid., 3.

¹⁹² Ibid., 3.

¹⁹³ Ibid., 3.

amendment that requires new or modified power plants to “install modern pollution control equipment.”¹⁹⁴ Thus, the EPA began a lengthy effort to enact rules and procedures on these old power plants in an attempt to counteract the damage they inflict on both public health and the environment.¹⁹⁵ In fact, the need to protect the public against the threat of these old power plants seems to have been felt by the coal industry as well as both political parties, with each of the four previous presidential administrations implementing standards which pertained to this issue.¹⁹⁶ While some of these old coal-fired power plants were retired beginning in 2015, many are still in use, as can be seen in Figure 3 on the following page titled “Existing Coal Units by Initial Operating Year and Retirements in 2015 (Net Summer Capacity, GW).”¹⁹⁷ Therefore, just as Figure 3 shows, proponents of this argument state that “the decline in coal-fired electricity generation is largely the result of an aging fleet of power plants, which may well have been retired years ago absent the Clean Air Act’s grandfathering clause.”¹⁹⁸ In other words, this grandfathering clause, which was included for the purpose of aiding the passage of the 1977 CAA amendment, disincentivized the creation of new, clean power plants or the modification of old sources that some argue is the primary contributor to the decline in the coal industry.

¹⁹⁴ “Fact Sheet: New Source Review (NSR),” New Source Review, U.S. EPA, <https://www.epa.gov/sites/production/files/2015-12/documents/nsrbasicsfactsheet103106.pdf>.

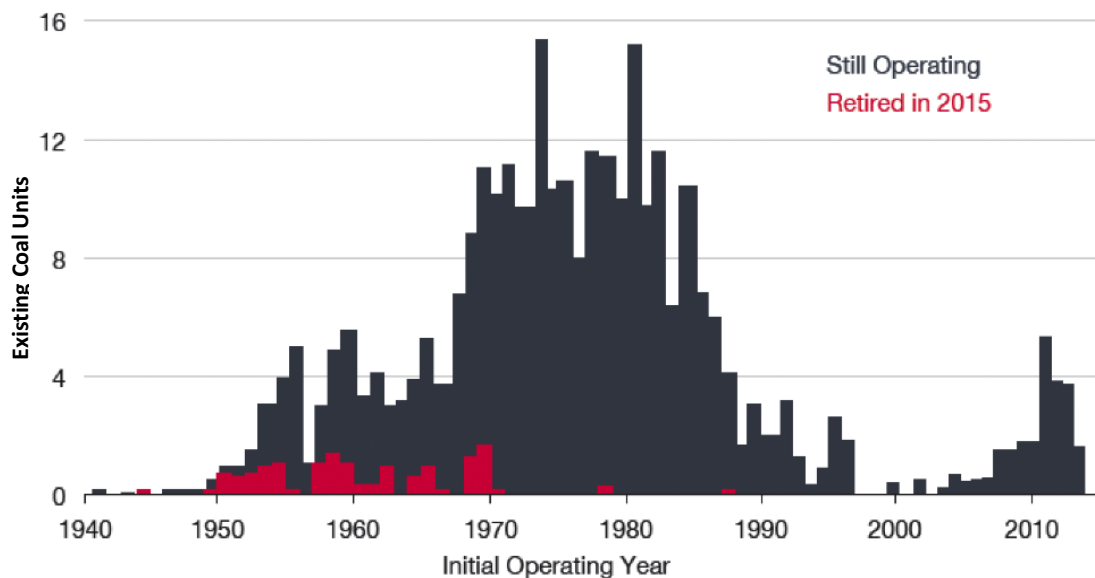
¹⁹⁵ Kolstad, “What is Killing the US Coal Industry?” 3.

¹⁹⁶ Ibid., 3.

¹⁹⁷ Ibid., 3.

¹⁹⁸ Ibid., 4.

Figure 3: Existing Coal Units by Initial Operating Year and Retirements in 2015 (Net Summer Capacity, GW)



In examining these various arguments and attempting to draw a concrete conclusion as to why the coal industry has experienced decline in recent years, it is also necessary to consider the explanation that it is simply a byproduct of progress in the United States. To understand this argument, one must first acknowledge the significant role coal played in American life during the second half of the twentieth century. For example, coal “fueled dramatic increases in electricity demand in the 1950s and 1960s,”¹⁹⁹ and served as the cheap fuel alternative in the 1970s when oil prices increased dramatically.²⁰⁰ However, as discussed above, the deregulation of the railroads in the 1980s “shifted the competitive balance regionally, as Western coal (with high labor productivity) took market share from eastern coal (with lower labor productivity).”²⁰¹ Moreover, an amendment to the 2005 Energy Policy Act allowed for fracking in the

¹⁹⁹ Kolstad, “What is Killing the US Coal Industry?” 6.

²⁰⁰ Ibid., 6.

²⁰¹ Ibid., 6.

United States to go unregulated by the EPA under groundwater protection laws.²⁰² This act was often referred to as the “Halliburton Loophole,” which derived its name from “the largest oil and gas services company in the country, whose chairman and CEO was Dick Cheney before he became Vice President of the United States.”²⁰³ This loophole increased the popularity of fracking and drove down the price of natural gas to the extent that it replaced coal as the most economic source of energy.²⁰⁴ Finally, the entrance of renewable energy sources, including solar and wind energy have allowed the United States to increase environmental conscious while simultaneously rendering coal less of a competitor in the energy market.²⁰⁵ Thus, when examining the arguments outlined above, it is interesting to note that the common denominator between the majority of these explanations is that they have each occurred due to some form of progress in the United States over the last seventy years.²⁰⁶ Therefore, according to this argument, the decline in coal is due to progress rather than environmental regulations.²⁰⁷

The United States is not the only country where coal consumption stands at the forefront of environmental discussions in terms of its contribution to climate change. In fact, in any discussion surrounding global coal consumption and subsequent carbon dioxide (“CO₂”) emissions, China simply cannot be overlooked. In fact, between 2000

²⁰² “Fracking: Regulatory Failures and Delays,” Fracking, Greenpeace, <https://www.greenpeace.org/usa/global-warming/issues/fracking/regulatory-failures-and-delays/>.

²⁰³ Ibid.

²⁰⁴ Kolstad, “What is Killing the US Coal Industry?” 6.

²⁰⁵ Ibid., 6.

²⁰⁶ Ibid., 6.

²⁰⁷ Ibid., 6.

and 2017, the amount of coal consumed by China tripled.²⁰⁸ This quick increase is largely attributed to China's economic expansion in the last two decades, forcing the country to drive up coal consumption in order to comply with demand.²⁰⁹ Unsurprisingly, this has had disastrous effects on the environment, to the extent that "in 2012 alone, burning coal produced 80% of China's fossil-fuel carbon emissions, or a fifth of the world total fossil-fuel carbon emissions, contributing more to global warming than any other country."²¹⁰ Due to the concern that arose from these numbers, China began to enact policy and make pledges to reduce overall coal consumption. One of these pledges stated that the country would, between 2016 and 2020, cut the production of coal by 500 million tons per year.²¹¹ Additionally, in order to protect the Chinese citizens and the environment from the harmful effects of coal produced in old or dirty plants, the country prohibited low quality coal from being both used and imported.²¹² However, China is struggling in terms of actually carrying out these pledges, and it is predicted that both its coal consumption and CO₂ emissions will continue to increase in coming years.²¹³ Moreover, some parts of the country are seemingly more committed to reducing coal consumption than others,

²⁰⁸ Qiang Wang and Rongrong Li, "Decline in China's Coal Consumption: An Evidence of Peak Coal or a Temporary Blip?" *Energy Policy* 108 (September 2017): 696.

²⁰⁹ Ibid., 696.

²¹⁰ Ibid., 696.

²¹¹ David Stanway, "Despite Climate Pledges, China Struggles to Break Coal Habit," Reuters, October 23, 2018, <https://www.reuters.com/article/us-climate-change-china-coal/despite-climate-pledges-china-struggles-to-break-coal-habit-idUSKCN1MX37Z>.

²¹² Ibid.

²¹³ Ibid.

with only some provinces attempting to move toward natural gas while others have had difficulty making the transition due to the high expense and low supply.²¹⁴

Another reason as to why China has been unable to reduce coal consumption in recent years is due to the difficulty it has had in implementing the use of renewable energy sources.²¹⁵ Growth of nuclear energy in China in particular has faced challenges due to the slow pace at which nuclear reactors are being installed throughout the country.²¹⁶ In fact, between 2015 and 2018, not one commercial nuclear reactor was authorized to begin construction in any area of the country.²¹⁷ Unfortunately, these issues are keeping China from effectively accessing the abundant potentials of nuclear energy, as it is “one of the few alternative power sources that can provide the reliable ‘baseload’ generation role currently played by traditional coal-fired plants.”²¹⁸ Furthermore, China’s efforts to increase use of solar and wind energy have been disrupted by issues including backlogs in government subsidy for these renewable sources.²¹⁹ These disruptions disallowed China from increasing its solar capacity above 30 gigawatts in 2018, which is a significant step down from the 53 gigawatt increase in 2017.²²⁰ China is not the only country with high coal consumption that has faced troubles implementing the use of renewable energy sources. In fact, similar to China, Germany’s well-intentioned attempts

²¹⁴ Stanway, “Despite Climate Pledges, China Struggles to Break Coal Habit.”

²¹⁵ Ibid.

²¹⁶ Ibid.

²¹⁷ Ibid.

²¹⁸ Ibid.

²¹⁹ Ibid.

²²⁰ Ibid.

to significantly increase use of renewable energy sources has actually just landed it in a situation where it is forced to support these renewables with coal-fired power plants.²²¹

China is also not alone in terms of the extreme environmental damage it has undergone due to coal consumption and its inability to effectively transition to the increased usage of renewable resources. In fact, despite the recent decline in the coal industry, the United States is currently dealing with a host of environmental issues that are the result of coal consumption. This became especially apparent following Hurricane Florence, which hit the east coast of the United States in September 2018.²²² The flooding in North and South Carolina due to the hurricane has caused millions of tons of coal ash to spill out of the basins in which it was held.²²³ This coal ash is a result of the burning of coal in coal-fired power plants, and contains heavy metals such as lead and arsenic, making it toxic to both the environmental and public health.²²⁴ Before Hurricane Florence hit, approximately one million tons of coal ash was held in three basins at the Duke Energy H.F. Lee coal-fired power plant in Goldsboro, North Carolina.²²⁵ During the height of the flooding, these basins went underwater, causing some of the coal ash to rush into major waterways, including the Neuse River.²²⁶ This occurs due to the fact that many major coal companies place their toxic waste basins in close proximity to major rivers

²²¹ Stanway, “Despite Climate Pledges, China Struggles to Break Coal Habit.”

²²² Jessica A. Knoblauch, “Along with Flooding, Hurricane Florence Unleashes Toxic Coal Ash,” Earthjustice, September 21, 2018, <https://earthjustice.org/blog/2018-september/along-with-flooding-hurricane-florence-unleashes-toxic-coal-ash>.

²²³ Ibid.

²²⁴ Ibid.

²²⁵ Ibid.

²²⁶ Ibid.

and waterways that have the tendency to flood following high rainfall.²²⁷ These spills of toxic coal ash have also occurred due to flooding from as little as 3.74 inches of rainfall, and due to alternative events such as dike failures, which is what occurred at Tennessee Valley Authority Kingston Fossil Plant in December 2008.²²⁸ This incident was particularly destructive, spilling about 5.4 million cubic yards of coal ash, which traveled into the Emory River and inflicted lasting damage on nearby cities.²²⁹

Incidents involving the spill of coal ash have prompted legislation to be enacted for the purpose of preventing future occurrences. Most notably, on April 17, 2015, the Disposal of Coal Combustion Residuals from Electric Utilities was published in the *Federal Register*.²³⁰ This federal regulation addresses coal ash from coal-fired power plants, which is referred to in the text of the Final Rule as coal combustion residuals (“CCR”). The Final Rule establishes standards for the disposal of CCRs in a way that is least harmful to the environment and public health, addressing the “leaking of contaminants into ground water, blowing of contaminants into the air as dust, and the catastrophic failure of coal ash surface impoundments.”²³¹ However, the Final Rule fell short in covering multiple aspects of coal ash disposal that cause significant harm to the environment. One of the largest shortcomings of the Final Rule was that it did not include

²²⁷ Knoblauch, “Along with Flooding, Hurricane Florence Unleashes Toxic Coal Ash.”

²²⁸ “EPA Response to Kingston TVA Coal Ash Spill,” EPA in Tennessee, U.S. EPA, <https://www.epa.gov/tn/epa-response-kingston-tva-coal-ash-spill>.

²²⁹ Ibid.

²³⁰ “Disposal of Coal Combustion Residuals from Electric Units,” Coal Ash, U.S. EPA, <https://www.epa.gov/coalash/coal-ash-rule>.

²³¹ Ibid.

standards for the lining of coal ash basins.²³² Proper lining of these basins is imperative to prevent leaking, which is a widespread issue considering reports that approximately ninety-five percent of ash ponds are unlined.²³³ Furthermore, the EPA “improperly exempted coal ash ponds at closed coal-fired power plants from regulation.”²³⁴ This exemption will surely have major implications, as the coal ash basins at the Duke Energy H.F. Lee coal-fired power plant that suffered flooding following Hurricane Florence qualify for this exemption.²³⁵ Thus, despite this Final Rule and other efforts made to impose regulations on it, the issue surrounding toxic coal ash has proven extremely difficult to eradicate.

In regard to the disposal of coal ash and total GHG emissions, coal-fired power plants currently pose a major threat to both the environment and public health. Furthermore, this threat is not confined to solely the United States. Other superpowers that are major contributors to global GHG emissions such as China and Germany are also dealing with the damaging implications of burning coal. Nevertheless, the explanation for the recent decline in the coal industry remains widely disputed, leaving the question regarding the future of energy production largely unanswered. Another uncertainty lies in the future of energy policy and regulation in the United States, particularly considering President Trump’s election and his outspoken opposition to the Obama Administration’s “war on coal.” Chapter four will discuss the Trump Administration’s proposed ACE rule,

²³² Knoblauch, “Along with Flooding, Hurricane Florence Unleashes Toxic Coal Ash.”

²³³ Ibid.

²³⁴ Ibid.

²³⁵ Ibid.

including the ways in which it departs from the CPP, and the future of GHG emission regulation in the United States.

CHAPTER FOUR

Proposed Affordable Clean Energy Rule

Published in the *Federal Register* on August 21, 2018, the proposed Affordable Clean Energy (“ACE”) Rule is the Trump Administration’s proposed replacement of the 2015 Clean Power Plan (“CPP”). Thus, the proposed ACE Rule contains several components aimed to achieve the policy goals and agenda of the Trump Administration, most specifically through the administration’s stated objective that the proposed rule “empowers states, promotes energy independence, and facilitates economic growth and job creation.”²³⁶ The proposed ACE Rule can perhaps be best examined by looking at its components and policies that most significantly diverge from the CPP, as a direct comparison between the two rules allows the reader to gain a deeper understanding behind the purpose with which the proposed ACE Rule was promulgated as well as the goals it aims to achieve.

Despite the numerous ways in which the proposed ACE Rule differs from the CPP in both substance and applicability, it is imperative to note that, despite their differences, the two rules share the overarching objective of decreasing carbon dioxide (“CO₂”) emissions from electric generating units (“EGUs”).²³⁷ Even in terms of which

²³⁶ “EPA Proposes Affordable Clean Energy (ACE) Rule,” News Releases, U.S. EPA, August 21, 2018, <https://www.epa.gov/newsreleases/epa-proposes-affordable-clean-energy-ace-rule>.

²³⁷ Brook J. Detterman, Grant Tolley, and Felicia H. Barnes. “Will EPA ‘ACE’ Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA’s Proposed Affordable Clean Energy Rule,” *The National Law Review*, November 3, 2018, <https://www.natlawreview.com/article/will-epa-ace-its-attempt-to-replace-clean-power-plan-deeper-dive-epa-s-proposed>.

specific kind of EGUs will be regulated, however, is where the proposed ACE Rule begins to depart from its predecessor.²³⁸ Specifically, the CPP necessitated that standards be placed on natural gas and integrated gasification combined cycle (“IGCC”) turbines, which utilize steam turbines and a synthesis gas (a combination of predominately hydrogen and carbon monoxide) to generate electricity,²³⁹ while the proposed ACE Rule limits these standards down to solely fossil-fuel fired EGUs.²⁴⁰ Perhaps the most significant distinction between the proposed ACE Rule and the CPP pertains to the role of the states in terms of establishing and enforcing GHG emission reduction standards.²⁴¹ In short, the proposed ACE Rule grants states with a significantly higher level of authority than they had been given under the previous rule.²⁴² This authority, derived under §111(d) of the Clean Air Act (“CAA”), only directs the EPA to issue “guidelines to states, and then states determine how to obtain compliance within general parameters.”²⁴³ This is significantly different from the interpretation of §111(d) under the CPP, where the EPA was charged with establishing precise emission reduction standards that states were required to meet.²⁴⁴ This interpretation, which gave states a much lower level of

²³⁸ Detterman, Tolley, and Barnes, “Will EPA ‘ACE’ Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA’s Proposed Affordable Clean Energy Rule.”

²³⁹ “Commercial Power Production Based on Gasification,” Gasification Systems, National Energy Technology Laboratory, <https://www.netl.doe.gov/research/Coal/energy-systems/gasification/gasifiedia/igcc>.

²⁴⁰ Detterman, Tolley, and Barnes, “Will EPA ‘ACE’ Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA’s Proposed Affordable Clean Energy Rule.”

²⁴¹ Ibid.

²⁴² Ibid.

²⁴³ Ibid.

²⁴⁴ Ibid.

independence and flexibility in meeting emission reduction standards, sharply contrasts with the methods put forth under the proposed ACE Rule, which does not contain any numeric performance standards that states are required to meet, and under which “EPA is taking a less prescriptive approach and [gives] states far more flexibility to craft their own plans to comply with the ACE Rule.”²⁴⁵

The proposed ACE Rule also differs from the CPP in its interpretation of a component of §111(d) of the CAA known as Best System of Emission Reduction (“BSER”).²⁴⁶ Essentially, §111(d) requires the EPA to establish standards of performance for existing sources that demonstrate the BSER.²⁴⁷ The BSER refers to the CAA’s requirement that “an emission standard (for new or existing sources) must reflect the emission reductions achievable through application of the ‘best system of emission reduction’ that EPA finds has been adequately demonstrated, taking into account costs and any non-air quality health and environmental impacts and energy requirements.”²⁴⁸ The proposed ACE Rule differs from the CPP in its interpretation of the type and scope of sources that must be regulated under the rule in order to adequately comply with the BSER.²⁴⁹ Perhaps unsurprisingly, the CPP’s interpretation was far broader than that of the proposed ACE Rule, with the CPP directing the EPA to establish building blocks

²⁴⁵ Detterman, Tolley, and Barnes, “Will EPA ‘ACE’ Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA’s Proposed Affordable Clean Energy Rule.”

²⁴⁶ Ibid.

²⁴⁷ Jessica Wentz, “Six Important Points About the Affordable Clean Energy Rule,” Phys.org, August 23, 2018, <https://phys.org/news/2018-08-important-energy.html>.

²⁴⁸ Megan Ceronsky and Tomás Carbonell, “Section 111(d) of the Clean Air Act,” Environmental Defense Fund, February 2014, https://www.edf.org/sites/default/files/section-111-d-of-the-clean-air-act_the-legal-foundation-for-strong-flexible-cost-effective-carbon-pollution-standards-for-existing-power-plants.pdf.

²⁴⁹ Detterman, Tolley, and Barnes, “Will EPA ‘ACE’ Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA’s Proposed Affordable Clean Energy Rule.”

which outlined various steps that were required to be taken in order to comply with the BSER.²⁵⁰ These building blocks both called for strict state emission budgets and “required actions outside the source’s fence line, including actions that reduced demand by shifting generation to facilities not in the source category being regulated by the CPP.”²⁵¹ The proposed ACE Rule takes a significantly more narrow approach in regulating sources, implementing what is referred to as an “inside the fence line”²⁵² approach, only requiring GHG emission reduction standards to be imposed on individual sources.²⁵³ Furthermore, the proposed ACE Rule only requires that these actions taken by the owner of the source to be operational or physical in nature and can only be taken at the particular location of that source.²⁵⁴ This approach has thus reversed the component of the CPP that required the owner of a particular source to, at times, implement emission reduction standards at external locations in order to be compliant with the BSER.²⁵⁵

Another discrepancy in the interpretation of §111(d) of the CAA arises between the proposed ACE Rule and the CPP regarding the remaining useful life of a source, which “refers to the amount of time in years [an affected source] will have before it will need replacement.”²⁵⁶ The CPP took a strict approach, disallowing states altogether from

²⁵⁰ Detterman, Tolley, and Barnes, “Will EPA ‘ACE’ Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA’s Proposed Affordable Clean Energy Rule.”

²⁵¹ Ibid.

²⁵² Ibid.

²⁵³ Ibid.

²⁵⁴ Ibid.

²⁵⁵ Ibid.

²⁵⁶ “Understanding Remaining Useful Life of a Machine,” Equipment Appraisal Blog | Understanding Machinery Appraisals, Equipment Appraisal Services, <https://www.equipmentappraisal.com/blog/understanding-remaining-useful-life-of-a-machine>.

considering affected sources' remaining useful life.²⁵⁷ In contrast, the proposed ACE Rule is far more lenient in its interpretation of §111(d), permitting the remaining useful life of sources to be contemplated by states,²⁵⁸ which may allow for less stringent standards to be placed on sources that have a short remaining useful life.²⁵⁹ The leniency could be seen as an example of the flexibility that states are granted under the proposed ACE Rule in drawing up and implementing performance standards for individual sources.²⁶⁰ The proposed ACE Rule's allowance for states to consider remaining useful life is one of many "source-specific factors,"²⁶¹ which "allow states to establish less stringent standards 'than would otherwise be suggested by strict implementation of the BSER technologies.'"²⁶² Furthermore, the current EPA has emphasized the fact that the consideration of a sources' remaining useful life is specifically mentioned by Congress in the CAA.²⁶³ The EPA utilizes this as a justification in its plan to codify the consideration of a sources' remaining useful life, as well as other source-specific factors, into the enforcement of federal regulations.²⁶⁴

²⁵⁷ Detterman, Tolley, and Barnes, "Will EPA 'ACE' Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA's Proposed Affordable Clean Energy Rule."

²⁵⁸ Ibid.

²⁵⁹ "Summary of the Proposed Affordable Clean Energy Rule (Clean Power Plant Replacement)," MJB&A Summary, M.J. Bradley & Associates LLC, September 7, 2018, [https://www.mjbradley.com/sites/default/files/MJBA_Summary_ACE_Proposal_\(CPP_Repeal\).pdf](https://www.mjbradley.com/sites/default/files/MJBA_Summary_ACE_Proposal_(CPP_Repeal).pdf), 2.

²⁶⁰ Kate C. Shouse, Jonathan L. Ramseur, and Linda Tsang, "EPA's Affordable Clean Energy Proposal," Congressional Research Service, November 2, 2018, <https://fas.org/sgp/crs/misc/R45393.pdf>.

²⁶¹ Ibid., 12.

²⁶² Ibid., 12.

²⁶³ Ibid., 12.

²⁶⁴ Ibid., 12.

The proposed ACE Rule’s establishment of the approach to only regulate within the fence line of individual sources was partially derived from an analysis carried out by the EPA regarding the optimal practices for reducing GHG emissions. This analysis found that “coal-fired power plants can reduce CO₂ emissions by making on-site efficiency upgrades.”²⁶⁵ These efficiency upgrades work to decrease emissions through lowering the actual amount of CO₂ emitted within each unit of electricity that is produced by the source.²⁶⁶ The EPA, under the proposed ACE Rule, is working to enact developments in addition to these heart-rate improvements that will increase the productivity of the sources regulated under the rule.²⁶⁷ Therefore, the “EPA is proposing a list of ‘candidate technologies’ that states would need to consider in establishing standards of performance for individual existing plants.”²⁶⁸ The task of actually implementing these technologies will, however, be left to the states under the proposed ACE Rule.²⁶⁹ More specifically, states will examine individual plants and decide which technology from the list can be suitably and efficiently applied to that source.²⁷⁰ Furthermore, once a state has determined that a particular technology is fitting for a certain source, that state will be tasked with the job of drawing up and implementing

²⁶⁵ “Proposed Affordable Clean Energy Rule – Overview,” Fact Sheet, U.S. EPA, https://www.epa.gov/sites/production/files/2018-08/documents/ace_overview_0.pdf.

²⁶⁶ Ibid.

²⁶⁷ Ibid.

²⁶⁸ Ibid.

²⁶⁹ Ibid.

²⁷⁰ Ibid.

standards of performance that will effectively result in the adequate amount of emission reduction for that source.²⁷¹

The proposed ACE Rule also reverses the approach that the CPP had established in setting state GHG emission limits for EGUs.²⁷² Under the CPP, the EPA had utilized a formula that was based on sources' fuel type in order to determine specific GHG emissions limits, which were then applied in a state-wide manner.²⁷³ The proposed ACE Rule, by contrast, instructs the EPA to authorize states to establish GHG emission limits for existing sources.²⁷⁴ In justifying this approach, "EPA contends this is more consistent with its prior practice under CAA Section 111(d), in which EPA sets the guideline for what is BSER and then states determine standards of performance."²⁷⁵ Furthermore, the proposed ACE Rule differs from the CPP in that state implementation of GHG emission reduction plans is not required to be met by any specific date whereas, under the CPP, deadlines were established.²⁷⁶ By consequence, "while the CPP targeted 32% GHG reductions by 2030, EPA models project that the ACE Rule will actually reduce GHG emissions by only 1.5% by 2030."²⁷⁷ It is also predicted from these models that levels of pollutants including sulfur dioxide ("SO₂"), nitrogen dioxide ("NO₂"), and mercury may

²⁷¹ U.S. EPA, "Proposed Affordable Clean Energy Rule – Overview."

²⁷² Detterman, Tolley, and Barnes, "Will EPA 'ACE' Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA's Proposed Affordable Clean Energy Rule."

²⁷³ Ibid.

²⁷⁴ Ibid.

²⁷⁵ Ibid.

²⁷⁶ Ibid.

²⁷⁷ Ibid.

actually be increased as a result of the ACE Rule.²⁷⁸ The current EPA, however, has also released estimates that “when states have fully implemented the [ACE rule], U.S. power sector CO₂ emissions could be 33% to 34% below 2005 levels, higher than the projected CO₂ emissions reductions from the CPP.”²⁷⁹ Therefore, should every state fully implement the standards of the proposed ACE rule, the projected emission reductions will be relatively similar to those of the CPP. The discrepancy between the 1.5% and the 33% to 34% reduction, therefore, is likely contingent on the willingness of states to fully implement the standards of the rule, a task which may prove difficult for the current EPA to enforce given the proposed ACE rule’s lack of deadlines for state compliance.

The current EPA is also working under the proposed ACE Rule to implement a number of policy changes that significantly differ from those established by the previous administration’s EPA. The first of these policy shifts relates to New Source Review (“NSR”), which is “a portion of the CAA that requires preconstruction permits for new sources and ‘major modifications’ to existing sources, including affected EGUs.”²⁸⁰ Under the proposed ACE Rule, NSR permits would only be triggered if there is a significant increase in an affected EGU’s hourly emissions.²⁸¹ This NSR permitting requirement is significantly less strict than that implemented under the CPP, which called for NSR permits to be triggered if emissions from an affected EGU increase annually

²⁷⁸ Detterman, Tolley, and Barnes, “Will EPA ‘ACE’ Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA’s Proposed Affordable Clean Energy Rule.”

²⁷⁹ U.S. EPA, “EPA Proposes Affordable Clean Energy (ACE) Rule.”

²⁸⁰ Detterman, Tolley, and Barnes, “Will EPA ‘ACE’ Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA’s Proposed Affordable Clean Energy Rule.”

²⁸¹ Ibid.

“above a relevant threshold.”²⁸² This policy shift under the proposed ACE Rule “means that modifications resulting in overall, annual emissions increases will not trigger costly NSR permitting requirements unless they *also* increase the hourly emissions rate.”²⁸³ The current EPA argues that this modification is necessary because there is a possibility that the on-site efficiency upgrades contained in the proposed ACE Rule could actually lead to increased annual GHG emissions because there will be a growth in the overall operation of affected EGUs.²⁸⁴ Therefore, the EPA states, the modification is necessary because the current NSR permit requirements, which are determined according to increases in annual emissions, may be triggered as a result of the on-site efficiency upgrades outlined in the proposed ACE Rule.²⁸⁵ Opponents of the proposed ACE Rule, however, argue against this modification to the NSR permits because it could provide a means by which aging power plants are permitted to continue operating past their recommended lifespan, which would lead to a significant increase GHG emissions.²⁸⁶ This modification to the NSR permit requirements thus works to the advantage of the coal industry, as the operation of coal-fired power plants, the efficiency of which would be significantly increased under the proposed ACE rule, would not be restricted by the triggering of NSR permits.²⁸⁷

²⁸² Detterman, Tolley, and Barnes, “Will EPA ‘ACE’ Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA’s Proposed Affordable Clean Energy Rule.”

²⁸³ Ibid.

²⁸⁴ Ibid.

²⁸⁵ Ibid.

²⁸⁶ Ibid.

²⁸⁷ Ibid.

Another policy shift proposed by the EPA alongside the proposed ACE Rule is the consideration of whether to allow states to average and trade among sources.²⁸⁸ This practice, which the EPA is currently deliberating over regarding its authorization under §111(d) of the CAA, would “allow states to average among coal-fired EGUs at a single facility.”²⁸⁹ One of the concerns the EPA holds regarding the implementation of this policy is that it could be seen as running contrary to the current EPA’s interpretation of BSER and its subsequent “inside the fence line” approach.²⁹⁰ Furthermore, the current EPA has stated that this policy may not be consistent with §111(d) of the CAA because, if it were, the provision contained in §111(d)(1) that explicitly permits states to take into account a source’s remaining useful life could be thought to be unnecessary and redundant.²⁹¹ Additionally, the EPA is concerned over implementing this policy shift due to the inevitably complicated nature of interweaving averaging and balancing among sources into state plans.²⁹² However, under the proposed ACE Rule, the current EPA remains open to this policy shift, saying that “EPA recognizes that there are significant benefits of averaging and trading across affected sources and is interested in whether emissions averaging could be a way to provide flexibility while still focusing on a core

²⁸⁸ Detterman, Tolley, and Barnes, “Will EPA ‘ACE’ Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA’s Proposed Affordable Clean Energy Rule.”

²⁸⁹ Ibid.

²⁹⁰ Ibid.

²⁹¹ Ibid.

²⁹² Ibid.

tenet of the BSER for this rule: reducing emissions per [megawatt hours] of coal-fired generation.”²⁹³

The current EPA has proposed an additional policy shift alongside the proposed ACE Rule that deals with the EPA’s interpretation of what should be included under BSER. More specifically, this policy shift seeks to have BSER not cover the co-firing of biomass or natural gas with coal.²⁹⁴ Co-firing is defined as “the burning of more than one type of fuel simultaneously,”²⁹⁵ which, in this instance, would consist of coal with either biomass or natural gas. To justify this exclusion, “EPA contends that ‘regional considerations and characteristics (e.g., access to biomass, or natural gas pipeline infrastructure limitations)’ prevent co-firing from being a national-level solution.”²⁹⁶ That is, because supply and demand at the regional level holds significant control over biomass, and it is prohibited for large quantities of natural gas to be kept on the grounds of sources, rendering it difficult to be utilized over a long period of time, the current EPA is considering whether or not co-firing should be excluded under BSER.²⁹⁷ Thus, under the proposed ACE Rule, “EPA proposes to include co-firing as a compliance option that states may consider and solicits comment on whether to include co-firing among the list of BSER candidate technologies.”²⁹⁸ However, because co-firing was included under

²⁹³ Detterman, Tolley, and Barnes, “Will EPA ‘ACE’ Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA’s Proposed Affordable Clean Energy Rule.”

²⁹⁴ Ibid.

²⁹⁵ “Co-firing Biomass with Coal,” Articles, Penn State Extension, <https://extension.psu.edu/co-firing-biomass-with-coal>.

²⁹⁶ Detterman, Tolley, and Barnes, “Will EPA ‘ACE’ Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA’s Proposed Affordable Clean Energy Rule.”

²⁹⁷ Ibid.

²⁹⁸ Ibid.

BSER under the CPP, opponents of the proposed ACE Rule are likely to raise issue with the current EPA's proposed consideration over this exclusion.²⁹⁹ In their argument, these opponents will likely utilize a comparison between the other candidate technologies that the proposed ACE Rule has put forward as BSER and the co-firing of natural gas and biomass.³⁰⁰ When considered alongside one another, opponents of the proposed ACE Rule will likely state that co-firing is similar enough in nature to these technologies and broadly utilized enough to where it does not make sense to exclude it while still including these other candidate technologies that the proposed ACE Rule has determined acceptable.³⁰¹

Since the publication of the proposed ACE Rule, multiple state attorneys general and environmental advocacy groups have stated threats to file suit against the rule if and when EPA moves forward and establishes a Final Rule.³⁰² The current EPA's approach in characterizing the proposed ACE Rule as a "reasonable"³⁰³ interpretation of §111(d) of the CAA serves to protect it if it were to go to court.³⁰⁴ This was a far more wise approach than if the current EPA had characterized it "as the only legally permissible interpretation of unambiguous statutory terms,"³⁰⁵ as this would have been "much more

²⁹⁹ Detterman, Tolley, and Barnes, "Will EPA 'ACE' Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA's Proposed Affordable Clean Energy Rule."

³⁰⁰ Ibid.

³⁰¹ Ibid.

³⁰² Ibid.

³⁰³ Ibid.

³⁰⁴ Ibid.

³⁰⁵ Ibid.

likely to be rejected by a reviewing court.”³⁰⁶ However, this reasonable interpretation, which serves as protection for the proposed rule in court, may also be a weakness to the longevity of the rule when a new President is elected in the future.³⁰⁷ This is because this flexible interpretation contained in the proposed ACE Rule allows room for a new administration’s EPA to interpret §111(d) once again, just as the Trump Administration’s EPA did with the CPP.³⁰⁸ As one analysis stated, “with the regulatory and litigation process likely to extend into the next administration, it’s anyone’s guess as to whether the ACE Rule will survive or serve merely as the next iteration in EPA’s ongoing saga to establish GHG standards for existing power plants.”³⁰⁹

On the other side, opponents of the proposed ACE Rule argue that the rule does not obligate the EPA to regulate emissions to the extent that the CAA requires the agency to.³¹⁰ More specifically, opponents argue that emissions standards contained in the proposed ACE Rule are not strict enough to sufficiently limit GHG emissions from stationary sources.³¹¹ One component of the opponent’s argument mentions the EPA’s Endangerment Finding, signed on December 7, 2009, which states that “the Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases...in the atmosphere threaten the public health and welfare of

³⁰⁶ Detterman, Tolley, and Barnes, “Will EPA ‘ACE’ Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA’s Proposed Affordable Clean Energy Rule.”

³⁰⁷ Ibid.

³⁰⁸ Ibid.

³⁰⁹ Ibid.

³¹⁰ Ellen M. Gilmer, “Climate Rule Litigation: Here We Go Again?” E&E News, August 22, 2018, <https://www.eenews.net/stories/1060094917>.

³¹¹ Ibid.

current and future generations.”³¹² Opponents argue that the proposed ACE Rule fails to adequately address this Endangerment Finding and therefore does not sufficiently address the threat that GHG emissions have been proven to pose to public health.³¹³ Opponents additionally argue against the proposed ACE Rule’s interpretation of BSER, stating that it does not meet the CAA’s definition of what the BSER for affected sources must entail.³¹⁴ Similarly, opponents disagree with the proposed ACE Rule’s policy shift regarding the NSR permit requirements, arguing that the rule’s interpretation of the NSR program will allow for “more emissions of pollutants tied to premature deaths.”³¹⁵ The increased emissions that could occur as a result of the policy shifts employed in the proposed ACE Rule are an additional issue for opponents of the rule. This has particularly been the case following the emergence of studies that suggest the proposed ACE Rule will result in a “rebound effect,”³¹⁶ meaning that the “rule’s focus on cutting emissions through efficiency improvements could cause emissions to increase at 28 percent of regulated power plants, as more efficient plants run more frequently and states delay retirement of older, dirtier plants.”³¹⁷

³¹² “Endangerment and Cause or Contribute Findings for Greenhouse Gases Under the Section 202(a) of the Clean Air Act,” Greenhouse Gas Emissions, U.S. EPA, <https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-clean>.

³¹³ Gilmer, “Climate Rule Litigation: Here We Go Again?”

³¹⁴ Ibid.

³¹⁵ Ibid.

³¹⁶ Niina Heikkinen, “Clean Power Plan Replacement Could Lead to Increased Emissions,” Scientific American, January 16, 2019, <https://www.scientificamerican.com/article/clean-power-plan-replacement-could-lead-to-increased-emissions/>.

³¹⁷ Ibid.

The history of the Paris Agreement, particularly the Obama Administration’s role in the United States entering into the agreement, is valuable to consider as it has played a significant role in the promulgation and evolution of both the CPP and the proposed ACE Rule. Drafted on December 12, 2015 in Paris at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (“UNFCCC”), the Paris Agreement is an international climate change treaty, the primary goal of which “is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.”³¹⁸ The United States signed the Paris Agreement on April 22, 2016, and formally entered into the agreement through an Executive Order signed by President Obama on September 3, 2016.³¹⁹ The Paris Agreement subsequently officially entered into force on October 5, 2016, and has currently been ratified by 185 of the 197 Parties to the UNFCCC.³²⁰ In remarks made following the United States’ formal entrance into the agreement, President Obama stated, “One of the reasons I ran for this office was to make sure that America does its part to protect this planet for future generations. Over the past seven and a half years, we’ve transformed the United States into a global leader in the fight against

³¹⁸ “What is the Paris Agreement?” The Paris Agreement, United Nations Climate Change, <https://unfccc.int/process-and-meetings/the-paris-agreement/what-is-the-paris-agreement>.

³¹⁹ “Paris Agreement,” Status of Treaties, United Nations Treaty Collection, https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en.

³²⁰ “Paris Agreement – Status of Ratification,” The Paris Agreement, United Nations Climate Change, <https://unfccc.int/process/the-paris-agreement/status-of-ratification>.

climate change.”³²¹ It is important to note the emphasis President Obama placed on the United States taking a global leadership position in environmental efforts, an aim which he demonstrated through being vocal in support of the Paris Agreement. The Obama Administration’s domestic climate policy also served to further this goal, the most prominent example of which can be seen in the CPP. In particular, the rule’s ambitious goal of reducing CO₂ emissions from coal-fired power plants 32% below 2005 levels by 2030³²² reflects the Obama Administration’s efforts to predicate the United States’ leadership position in the global fight against climate change with a strict domestic policy on GHG emissions.

The United States’ relationship to international climate change efforts was dramatically altered by the election of President Trump in 2016. Most notably, on June 1, 2017, President Trump announced the United States’ withdrawal from the Paris Agreement.³²³ The Trump Administration’s justification for the withdrawal pertains to the President’s viewpoint that “the Paris Accord represents an attack on the sovereignty of the United States and a threat to the ability of his administration to reshape the nation’s environmental laws in ways that benefit everyday Americans.”³²⁴ Thus, President’s Trump’s withdrawal of the United States from the Paris Agreement largely served as a

³²¹ Tanya Somanader, “President Obama: The United States Formally Enters the Paris Agreement,” The White House: President Barack Obama, September 3, 2016, <https://obamawhitehouse.archives.gov/blog/2016/09/03/president-obama-united-states-formally-enters-paris-agreement>.

³²² “What is the Clean Power Plan?” E&E’s Power Plan Hub, E&E News, https://www.eenews.net/interactive/clean_power_plan/fact_sheets/rule.

³²³ Michael D. Shear, “Trump Will Withdraw U.S. From Paris Climate Agreement,” The New York Times, June 1, 2017, <https://www.nytimes.com/2017/06/01/climate/trump-paris-climate-agreement.html>.

³²⁴ Ibid.

vehicle for the proposed ACE Rule, which, according to the Trump Administration, was promulgated for the purpose of increasing the efficiency of coal-fired power plants.³²⁵ This goal, as well as the Trump Administration’s aim to end the “war on coal” and increase jobs for American workers in the energy sector likely contributed to the justification for pulling out of the Paris Agreement. This likelihood is further increased by the fact that the Paris Agreement must be implemented at a national level through nationally determined contributions (“NDCs”) which are “national climate plans highlighting climate actions, including climate related targets, policies and measures governments aim to implement in response to climate change and as a contribution to global climate action.”³²⁶ The implementation of these NDCs run counter to the central goal of the Trump Administration’s environmental and energy policy, providing the reader with further evidence for the reasoning behind President Trump’s withdrawal from the Paris Agreement, proposed repeal of the CPP, and promulgation of the proposed ACE Rule.

The comment period for the proposed ACE Rule closed on October 30, 2018, which gave the general public 60 days to submit comments following the publication of the proposed rule on August 21, 2018.³²⁷ The public may submit comments on the proposed rule online or through email, fax, mail, or hand or courier delivery.³²⁸ The EPA

³²⁵ Gilmer, “Climate Rule Litigation: Here We Go Again?”

³²⁶ “NDC Spotlight,” Events & Meetings, United Nations Climate Change, <https://unfccc.int/process/the-paris-agreement/nationally-determined-contributions/ndc-spotlight>.

³²⁷ Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program, 83 Fed. Reg. 44746 (August 31, 2018) (codified at 40 C.F.R. pt. 51, 52, and 60).

³²⁸ U.S. EPA, “Proposed Affordable Clean Energy Rule – Overview.”

has advised that, in general, public comments, whether they be in disagreement or agreement with a particular action, should be both be constructive in nature and should include evidence to support their argument.³²⁹ The EPA states the comments that abide by these measures are the most likely to influence the rule or action taken by the EPA.³³⁰ Furthermore, the comments submitted to the EPA regarding a particular action “will be posted to regulations.gov and are also made available for in-person viewing at the EPA Docket Center’s Reading Room.”³³¹ This is true for all comments made to the EPA except for those that violate specific criteria listed on the EPA’s website, and will thus not be made available for public viewing.³³² Following the close of the comment period, the EPA considers the submitted comments and begins the process of revising the proposed regulation, after which it will issue the Final Rule.³³³ At the conclusion of this process, “the agency must base its reasoning and conclusions on the rulemaking record, consisting of the comments, scientific data, expert opinions, and facts accumulated during the pre-rule and proposed rule stages.”³³⁴ The EPA is currently in the process of revising the proposed ACE Rule and formulating the Final Rule. The issuing of the Final Rule,

³²⁹ “Commenting on EPA Dockets,” Dockets, U.S. EPA, <https://www.epa.gov/dockets/commenting-epa-dockets>.

³³⁰ Ibid.

³³¹ Ibid.

³³² Ibid.

³³³ “The Basics of the Regulatory Process,” Laws & Regulations, U.S. EPA, <https://www.epa.gov/laws-regulations/basics-regulatory-process>.

³³⁴ “A Guide to the Rulemaking Process,” The Rulemaking Process, Federal Register, https://www.federalregister.gov/uploads/2011/01/the_rulemaking_process.pdf.

which was originally expected to be published by the end of March 2019,³³⁵ has been delayed due to the 35-day government shut down that occurred from December 22, 2018 to January 25, 2019.³³⁶ The Trump Administration has announced that, due to the delay, the Final Rule will now be issued “in the second quarter” of 2019.³³⁷

The regulation of GHG emissions from existing coal-fired power plants has undergone significant litigation in the last four years alone. The Final Rule of the Obama Administration’s CPP, published in the *Federal Register* on October 23, 2015,³³⁸ faced significant opposition, primarily based on the argument that the EPA was exceeding its regulatory authority in attempting to enforce the rule.³³⁹ The litigation surrounding the CPP culminated on February 9, 2016, when the Supreme Court issued a stay on the rule pending judicial review.³⁴⁰ Shortly after the stay was issued, a vacancy opened up on the Supreme Court, delaying the judicial review past the election of President Trump and ultimately leading to the CPP never being enforced.³⁴¹ The Trump Administration further sealed the fate of the CPP on October 16, 2017, when it issued a proposed repeal of the

³³⁵ Zack Hale, “US EPA Pushes Back Timeline for Clean Power Plan Replacement Following Shutdown,” S&P Global, February 8, 2019, <https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/020819-us-epa-pushes-back-timeline-for-clean-power-plan-replacement-following-shutdown>.

³³⁶ Denise Lu and Anjali Singhvi, “Government Shutdown Timeline: See How the Effects are Piling Up,” The New York Times, January 28, 2019, <https://www.nytimes.com/interactive/2019/01/08/us/politics/government-shutdown-calendar.html>.

³³⁷ Hale, “US EPA Pushes Back Timeline for Clean Power Plan Replacement Following Shutdown.”

³³⁸ Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64661 (October 23, 2015) (40 C.F.R. pt. 60).

³³⁹ Emily Holden, “EPA’s Clean Power Plan Does Well in Court,” Scientific American, September 28, 2016, <https://www.scientificamerican.com/article/epa-s-clean-power-plan-does-well-in-court/>.

³⁴⁰ Chamber of Commerce v. Environmental Protection Agency, 136 S.Ct. 999 (2016).

³⁴¹ “Overview and Litigation Timeline,” E&E’s Power Plan Hub, E&E News, https://www.eenews.net/interactive/clean_power_plan/fact_sheets/legal.

rule.³⁴² The proposed ACE Rule was subsequently published on August 21, 2018 with the purpose of increasing the efficiency of coal-fired power plants and serving to further the Trump Administration’s goal of attaining energy independence and putting an end to the Obama Administration’s “war on coal.” As has been stated, however, it is highly anticipated that many state attorneys general and environmental groups will challenge the Final Rule of the ACE rule following its publication. Moreover, considering the Trump Administration’s determination to see the implementation of the ACE Rule through, “even if there are sufficient numbers to overturn the ACE Rule using the Congressional Review Act, President Trump will almost certainly veto such action.”³⁴³ Thus, the publication of the Final Rule will likely begin a string of litigation that will follow in the footsteps of that of the CPP. This, combined with the fact that President Trump’s first term in office is coming to a close at the end of next year, means that the possibility for the complete establishment and implementation of the ACE Rule remains largely unclear.

³⁴² Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 82 Fed. Reg. 48035 (October 16, 2017) (codified at 40 C.F.R. pt. 60).

³⁴³ Detterman, Tolley, and Barnes, “Will EPA ‘ACE’ Its Attempt to Replace the Clean Power Plan? A Deeper Dive into EPA’s Proposed Affordable Clean Energy Rule.”

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