

UNDERSTANDING ENVIRONMENTAL LAWS: THE ROLE OF FEDERALISM IN DEVELOPING A
NATIONAL CLIMATE CHANGE MITIGATION STRATEGY FOR GREENHOUSE GAS EMISSIONS. A
CASE STUDY OF THE CLEAN POWER PLAN PROPOSAL

By

SIDY SHAFAHIL TRAORE

A Thesis submitted to the Honors College
In Partial Fulfillment of the Bachelors Degree
With Honors in
Environmental Studies
The University of Arizona
December 2016

Approved By:

Dr. Carl Bauer
Department of Geography

Abstract

Defined as a “system of state and national government [where] each level has some degree of autonomy” (Farber, 2013 page 12), federalism is one of the most important characteristics of the American political system. Although the word federalism never appears in the U.S. Constitution, the Supremacy Clause establishes that the Constitution, federal laws, and treaties constitute "the supreme law of the land" (U.S. Const. art. VII, § 2). In other words, federal laws take precedence over any other forms of law on U.S. soil. Naturally, federalism has a major importance in environmental laws.

The goal of this paper is to analyze whether overlapping jurisdiction of the federal system facilitates or obstructs an efficient implementation of a national climate change mitigation strategy for U.S. greenhouse gas emissions. The importance of the environmental theme in recent news places this paper in the center of international debate on environmental regulation. Indeed, although there is a common scientific agreement that climate change and environmental degradations are happening at an alarming rate, national and international legislators have failed to take significant actions to mitigate and adapt to climate change. However, the Paris Climate Change Conference agreement recently ratified by 193 countries, gives new hopes in the fight against climate change. It suggests an imperative that policymakers must take imminent actions to mitigate carbon dioxide emissions, at the local and international level. The Clean Power Plan proposed by President Obama’s administration is a direct effort to

comply with the Paris agreement commitment, in order to reduce U.S carbon dioxide emissions.

Table of Contents

I) Introduction

II) Background on Electricity Production, Distribution and Regulation

- a) Industry Structure*
- b) Industry Regulation*

III) The Clean Power Plan

- a) Background of Climate Change Impact on Health*
- b) The Clean Air Act*
- c) CPP Key Messages and Proposal*

IV) Analysis of the Clean Power Plan

- a) Environmental and Social Impact of the Clean Power Plan*
- b) Economic Analysis of the Clean Power Plan*
- c) Employment Analysis of the Clean Power Plan*

V) States, The Court and the CPP

- a) Legal Challenges Against the Clean Power Plan: Request of a Stay*
- b) EPA's Arguments*
- c) Viewpoint of the Supreme Court*

VI) Analysis: The Clean Power Plan, an Example of Federalism Failure?

- a) Understanding the Concept of Federalism*
- b) The Clean Power Plan and Federalism*
- c) Another Kyoto Protocol?*

VII) Summary

I) Introduction

These have been unsettling times for electric utilities and the public they serve in the United States. In the early 20th century, electricity generation underwent major transformations. Although the early electric power industry was developed using direct current transmission, a system in which a relatively low voltage of electricity could travel only over short distances, this paradigm began to change as technology rapidly transformed electricity production in the United States (PBS, 2014). The discovery of alternating current transformers allowed companies to transport electricity from a greater distance at a higher voltage. From the development of monopolies exerting control over America's electricity production and distribution, holding companies arose. "A holding company is a company that controls a partial or complete interest in another company" (PBS, 2014). The growing utility monopolies began to exploit smaller companies in order to maximize profit by reducing competition as much as possible. However, in 1928, the Federal Trade Commission began a six-year investigation into the market manipulations of the holding companies, leading to the federal regulation of utilities. But the "free market mania" of the 1980's and 90's challenged the notion of the electric power industry as a "natural monopoly." Many politicians and economists argued that regulation had outlived its value and that the market should determine prices. (PBS, 2014). As a result, many states either passed legislation or issued comprehensive orders to restructure their electric power industry, leading to the deregulation of the electricity industry. (PBS, 2014).

Today, the electricity industry is once again going through disturbances. The release of the Clean Power Plan has spurred vigorous debate across the United States since its introduction in 2015. Proposed in 2014 and released in August 2015, stakeholders have been vigorously debating the pros and cons of implementing such a policy in the United States. The Clean Power Plan is the first policy which seeks to limit the carbon emissions produced by power plants. It was designed to bolster the transition to cleaner sources of energy by setting goals for states and their power plants, in order to reduce carbon dioxide emitted by electric utilities (EPA, 2016). However, states, stakeholders, and the U.S. Government have been debating over the constitutionality and the feasibility of the Clean Power Plan. This thesis provides a deeper understanding of this dispute by analyzing the role that federalism has occupied in the proposed implementation of the Clean Power Plan. First, we will recall the characteristics of the United States' grid system. Part III will give a summary of the final rule of the Clean Power Plan. Part IV will discuss the potential benefits of the Clean Power Plan in terms of climate change, public health, and economy. Part V will study the legal challenges surrounding the final rule. Part VI will debate whether the Clean Power Plan is an example of federalism failure. The last part will be dedicated to the conclusion. This part will specifically focus on the future of the Clean Power Plan under the Trump administration.

II) Background on Electricity Production, Distribution and Regulation

a) Industry Structure

The United States' electricity industry is economically and geographically immense. With over 3,000 public, private, and cooperative utilities, more than 1,000 independent power generators, and over 700,000 homes and businesses with onsite solar generating systems, the electricity industry is divided between three regional synchronized power grids (Lazar, 2016).

About 75 percent of the U.S. population is served by investor owned utilities. These are “private companies, subject to state regulation and financed by a combination of shareholder equity and bondholder debt” (Lazar, 2016). Investor owned utilities are usually financially large companies that establish business in different cities.

Consumer owned utilities, on the other hand, serve about 25 percent of the US population, including cities and large rural areas. There are different types of consumer owned utilities. City owned or municipal utilities are a type of consumer utilities which are governed by the local city councils or other elected commissions. (Lazar, 2016). Cooperatives are another form of consumer owned utilities. They are mostly located in rural areas and are private, nonprofit entities governed by a board elected by the customers of the utility (Lazar, 2016). Other consumer owned utilities include a variety of Native American tribes and public utility districts. (Lazar, 2016).

There are two main types of electric utilities in the United States. First, vertically integrated utilities are “responsible for generation, transmission, and distribution of power to

retail customers. In many cases, they own some or all of their power plants and transmission lines” (Lazar, 2016). But they can also purchase power through contracts from other electricity producers in order to meet the demand, if need be. “Most use a combination of owned resources, contract resources, and short-term purchases and sales to meet their customer demands, and a combination of their own transmission lines and lines owned by others, to move power from where it is produced to the communities they serve” (Lazar, 2016).

Distribution only utilities are another sort of electric utilities which are characterized by their exclusive distribution of electricity. In other words, these kinds of utilities are not integrated and provide only distribution services. They are usually smaller than integrated utilities and do not generate electricity. However, they either purchase electricity from producers and resell it to consumers or, in certain states, “consumers may obtain their power directly from suppliers, with the utility providing only the distribution service” (Lazar, 2016).

In the United States, most electricity is supplied by coal, natural gas, and nuclear power plants at a lesser extent. In fact, as of 2015, 33 percent of the electricity is supplied by coal, 32 percent is supplied by natural gas, 19 percent of the electricity comes from nuclear power plants, renewable energy account for 8 percent, and hydro-electricity provides 6 percent of the nation’s energy (Lazar, 2016).

b) Industry Regulation

In the United States, the electricity sector is regulated by the states and/or by the federal government. For instance, some aspects of the electricity industry such as interstate transmission and wholesale power sales, are federally regulated. Some others, such as retail rates and distribution service, are state-regulated and others, such as facility siting and environmental impacts, may be regulated locally (Lazar, 2016).

At the federal level, the Federal Energy Regulatory Commission (FERC) handles most of the federal regulation of the energy sector. FERC, then called Federal Power Commission came into existence from the enactment of the Federal Water Power Act in 1920. FERC “provides oversight for the natural gas, electricity, and oil industries. Some of the organization’s responsibilities include, but are not limited to: regulating interstate wholesale electricity agreements, reviewing proposals for electricity projects, providing licenses and inspecting public and private-sector electricity plants, monitoring electricity markets and enforcing regulations, especially when violations occur” (Sunshine, 2016). Indeed, the U.S. Constitution allows Congress to regulate interstate commerce (Wickard v. Filburn, 317 U.S. 111 (1942)). As a result, Congress amended the Federal Power Act in 1935, which allows the federal government to regulate interstate transmission service pricing (Lazar, 2016).

However, FERC has limited authority. For instance, FERC cannot oblige local authorities to construct lines that address the national interest, as deemed by a periodic US Department of Energy assessment (Lazar, 2016). Indeed, in some parts of the United States, lack of

transmission lines has slowed the development of renewable energy, as current transmission lines do not necessarily reach areas propitious for renewable energy. FERC does not have the authority to force states to develop renewable energy. Furthermore, most of Texas, Hawaii, Alaska, and public power entities, such as Arizona's Salt River Project or New York Power Authority, are outside FERC Jurisdiction (Lazar, 2016)

At the local level, state regulatory commissions have legislative power over electric generation. In general, regulatory commissions perform the same basic function across the nation. Because utility companies are usually monopolies, state regulatory commissions allocate costs among customer classes and fix price level judged appropriate to customers, while allowing the company to make profit. State regulatory commissions also set service quality standards and consumer protection requirements (Lazar, 2016). Moreover, they oversee the financial responsibilities of utility companies, including reviewing and approving utility capital investments and long-term planning. Finally, they serve as the arbiter of disputes between consumers and the utility (Lazar, 2016).

III) Clean Power Plan background

a) Background: Climate Change Impact on Health

This section provides a general background on the relevance of climate change impacts on public health in the United States. Because public health degradation is one of the

ramifications of climate change, policies regarding carbon dioxides emissions, such as the Clean Power Plan, directly concern public health.

Climate change, poses significant threats to health and welfare, directly and indirectly. Although not everyone is equally at risk due to variation in age, economic resources, and location, changes in atmospheric carbon dioxide level, climate change currently contributes to the global burden of disease and premature deaths (IPCC, 2014 p 393). In the United States, climate change affects public health “in many ways, including impacts from increased extreme weather events, wildfire, decreased air quality, threats to mental health, and illnesses transmitted by food, water, and disease-carriers such as mosquitoes and ticks” (Balbus et al., 2014 p 221).

Climate change indirectly impacts public health through wildfire. Global warming increases forest vulnerability to wildfire, resulting in a projected increase in wildfire frequency in the United States. Wildfire smoke is composed of toxic particulate matters, such as carbon monoxide, nitrogen oxide, and various volatile organic compounds, which can significantly reduce air quality both locally and in areas downwind of fires (Balbus et al., 2014 p 223). Smoke “exposure increases respiratory and cardiovascular hospitalizations, emergency department visits, and medication dispensations for asthma, bronchitis, chest pain, chronic obstructive pulmonary disease, respiratory infections, and medical visits for lung illnesses” (Balbus et al., 2014 p 223). According to an assessment of the global health risks from landscape fire smoke, smoke exposure has been associated with hundreds of thousands of deaths around the world

annually (Dennekamp and Abramson, 2011 p 198-209).

In regards to temperature increase, extreme heat events, especially during summers, have long been recognized as a threat to public health. Many cities, including St. Louis, Philadelphia, Chicago, and Cincinnati, have suffered dramatic increases in death rates during heat waves (Balbus et al., 2014 p 224). In various cities around the United States, heat waves have caused heat strokes and related conditions, cardiovascular disease, respiratory diseases, cerebrovascular disease, and kidney disorders. With projections estimating warmer summers, health complications related to heat are expected in the coming decades. While deaths and injuries related to extreme cold events are projected to decline due to climate change, these reductions are not expected to compensate for the increase in heat-related deaths (Balbus et al., 2014 p 224).

Similarly, precipitation variation is known to have consequentially impacted public health in the United States. The frequency of heavy rainfall has already increased throughout the United States as a whole and is projected to keep increasing in the coming decades (Balbus et al., 2014 p 224). Increases in extreme and total precipitation have resulted in extreme flooding events in certain regions of the nation. Most recently, in August 2016, the state of Louisiana experienced devastating floods which led to the evacuation of tens of thousands of people and killed at least thirteen. (Robertson, 2016). As a matter of fact, floods are the second deadliest of all weather-related hazards in the United States, “accounting for 98 deaths per year most due to drowning. Flash flooding associated with tropical storms results in the highest

number of deaths” (Balbus et al., 2014 p 225). At the other extreme of precipitation, droughts also pose significant threats to people’s health. For instance, drought conditions may increase health hazards including wildfires, dust storms, extreme heat events, flash flooding, degraded water quality, and reduced water quantity (Balbus et al., 2014 p 225).

Climate change also plays an important role in the distribution of diseases borne by vectors such as mosquitoes, fleas, or ticks bearing viruses or bacteria. Indeed, climate variability can sometimes lead to vectors adaptations or expansions in terms of geographical range. For instance, scientists are now claiming that because of climate change, Zika could soon enjoy a greater reach in the continental United States (Mercer, 2016). The United States is currently at risk from numerous “vector-borne diseases, including Lyme Disease, Dengue Fever, West Nile Virus, Rocky Mountain Spotted Fever, Plague, and Tularemia” (Balbus et al., 2014 p 225). Climate change is projected to increase people's exposure to these diseases, as well as new ones currently thriving in tropical areas of Latin America.

Certainly, there is a need for the United States’ federal government to address the threats posed by climate change both for the environment and for public health. Because the energy sector accounts for 30 percent of greenhouse gas emissions in the United States as of 2014 (EPA, 2016), the Clean Power Plan proposed by the Environmental Protection Agency attempts to lay the foundation for the long-term strategy needed to tackle the threats associated with climate change.

b) The Clean Air Act

The Clean Power Plan bases its authority to regulate carbon dioxide emitted by power plants, on its interpretation of the Clean Air Act (CAA). Established in 1963, and amended in 1970, 1977, and 1990, the Clean Air Act was designed to protect human health from environmental pollution. Under the Clean Air Act, the Environmental Protection Agency is required to regulate emissions that “cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare” (Clean Air Act, p 27). Historically, the EPA has set emission limits on hazardous air pollutants such as ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide.

In 1963 the CAA was the first federal legislation regarding air pollution control. It established a federal program within the U.S. Public Health Service and authorized research into techniques for monitoring and controlling air pollution (EPA, 2016). The amendment of 1970 expanded the federal mandate, requiring federal and state regulation for both stationary pollutant sources and mobile pollutant sources. The 1970 amendment also established the Environmental Protection Agency as the federal environmental agency in charge of the CAA. Additionally, four major regulatory programs affecting stationary sources were initiated: The National Ambient Air Quality Standards (NAAQS, pronounced "knacks"), State Implementation Plans (SIPs), New Source Performance Standards (NSPS), and National Emission Standards for Hazardous Air Pollutants (NESHAPs) (EPA, 2016).

The amendment of 1977 primarily “concerned provisions for the Prevention of Significant Deterioration (PSD) of air quality in areas attaining the NAAQS” (EPA, 2016). Furthermore, it established permit requirements in areas that did not meet with federal air quality standards. Finally, the 1990 amendments increased the federal authority of EPA by expanding programs controlling toxic air pollutants and by establishing new regulatory programs. For instance, new regulatory programs were authorized to control of acid rain (EPA, 2016).

c) Clean Power Plan Key Message and Proposal

On August 3th 2015, President Obama and the Environmental Protection Agency introduced the Clean Power Plan, a plan proposing to tackle climate change and its various effects on people and the environment. The Clean Power Plan is the first ever policy that sets national standards to address carbon pollution from power plants. Drafted with the input of states, tribes, utility companies, stakeholders, and the public, the Clean Power Plan’s main goal is to reduce carbon pollution from power plants, the nation’s largest source of greenhouse gas emissions, while maintaining energy reliability and affordability (EPA, 2016), as well as dangerous pollutants affecting health. According to EPA, the Clean Power Plan proposes a set standard of emission that each state is required to meet by a certain deadline, while providing states and utilities ample flexibility and time to achieve these pollution cuts (EPA, 2016).

The Clean Power Plan bases its authority to regulate carbon dioxide emitted by

power plants, on its interpretation of section 111(d) of the CAA. Section 111 was authorized in 1970 and establishes a mechanism for controlling air pollution from categories of stationary sources in order to keep air pollution at a safe level for public health. While section 111 (b) of the CAA authorizes the federal government to establish standards for new, modified, and reconstructed sources of pollutants, section 111 (d) authorizes the federal government to establish standards for existing sources “for any air pollutant (for which air quality criteria have not been issued or which is not included on a list published under section 108 (a))” (Clean Air Act p 45).

Under the same section, the EPA is given the authority to set goals while allowing flexibility for states and tribes to achieve these goals. As sanctioned by section 111(d) of the Clean Air Act, the Clean Power Plan establishes interim and final carbon dioxide emission performance rates for two subcategories of fossil fuel-fired electric generating plants (EPA, 2016). On one hand, emission caps of fossil fuel-fired electric steam generating plants, such as coal and oil fired power plants, are fixed by the Clean Power Plan. On the other hand, the Clean Power Plan also sets limits on natural gas fired electric plants. “States then develop and implement plans that ensure that the power plants in their state, either individually, together, or in combination with other measures, achieve the interim CO₂ emissions performance rates over the period of 2022 to 2029 and the final CO₂ emission performance rates, rate-based goals or mass-based goals by 2030” (EPA, 2016).

As established by section 111(d) of the Clean Air Act, the Clean Power Plan requires

states to use the “best system of emission reduction” for a particular pollutant, based on existing measures and technologies. On that basis, the Clean Power Plan determined strategies that states and utility companies are already using to decrease carbon dioxide emissions (EPA, 2016). The Clean Power Plan identified three ways to reduce power plants’ carbon dioxide emissions without sacrificing energy production. First, the Clean Power Plan proposes to increase efficiency and reduce the carbon intensity of electricity generation by improving the heat rate of existing coal-fired power plants. Improved heat rate allows plants to generate the same amount of electricity using less fuel. Second, the plan suggests substituting increased electricity generation from lower-emitting existing natural gas plants for reduced generation from higher-emitting coal-fired power plants. And finally, the Clean Power Plan recommends substituting increased electricity generation from new zero-emitting renewable energy sources, such as wind and solar, for reduced generation from existing coal-fired power plants (EPA, 2016). This will include the retiring of some coal powered power plants.

The EPA accounted for the interconnected characteristics of the United States’ grid system in order to draft the final rule. In assessing the “best system of emission reduction” the Clean Power Plan recognizes the three main regional grids which are: “the Western interconnection, the Eastern interconnection, and the Electricity Reliability Council of Texas interconnection” (EPA, 2016). As a result, the Clean Power Plan establishes regional emission performance standards for all the coal and natural gas power plants based on these three regional grids. From the carbon dioxide emission standards determined regionally, the EPA sets

a national standard as well as an individual one for each state. Naturally, depending on the types of electric power plants, pollutants emitted by states' power generation plants, in state electric consumption, and other factors, the Clean Power Plan states standards vary between states. In other words, "each state has a different goal based upon its own particular mix of affected sources" (EPA, 2016). The Clean Power Plan also aims to limit First Nations' carbon dioxide emission including, Navajo, Fort Mojave, Uintah, and Ouray Nations. The EPA has not established carbon dioxide emission performance goals for Alaska, Hawaii, Guam, or Puerto Rico, as more informative data needs to be collected (EPA, 2016).

Under the Clean Power Plan, states must develop and implement plans which ensure that power plants in their respective states, either individually, together, or in combination with other measures, achieve the interim and carbon dioxide emission goal set by the Clean Power Plan (EPA, 2016). If parties meet the carbon dioxide emission goals determined by the Clean Power Plan, the EPA believes that "the rule would reduce national electricity sector emissions by an estimated 32 percent below 2005 levels by 2030" (UCSUSA, 2016)

The Clean Power Plan intends to meet this goal by allowing flexible implementation to states. Indeed, states may choose between two different plans to meet their goals. On one hand, the emission standard plan, "includes source-specific requirements ensuring all affected power plants within the states to meet their required emissions performance rates or state-specific rate-based or mass-based goal" (EPA, 2016). On another hand, the state measure plan, includes a mixture of measures implemented by the states, such as renewable energy

standards and programs to improve residential energy efficiency that are not included as federally enforceable components of the plan (EPA, 2016). States are given the option to cooperate with each other in order to meet regional CO₂ reduction goals. According to the EPA, carbon trading is especially important because of the connectivity of the grid system.

Carbon trading is an alternative way to meet the carbon emission goals set by EPA at the disposal of states. Carbon trading is a market based system which involves the buying and selling of permits and credits to emit carbon dioxide. The Clean Power Plan proposes that carbon trading takes the form of cap and trade (EPA, 2016). Under the cap and trade system, governments or intergovernmental bodies such as the Environmental Protection Agency or state agencies, hand out tradable carbon permits to industries, which are licenses to pollute. As a result, a company whose emissions exceed the limit set by the permit, can buy polluting rights from companies that do not exceed their emission limits (Gilbertson and Reyes, 2009 p 10). The Clean Power Plan gives states the opportunity to design plans that will make their units “trading ready,” allowing individual power plants to use in-state or out-of-state reductions in the form of credits or allowances, depending on the plan type to achieve required CO₂ reductions. (EPA, 2016) “The theory is that the availability of carbon permits will gradually be reduced, ensuring scarcity, so that the market retains its value while at the same time forcing a reduction in the overall level of pollution” (Gilbertson and Reyes, 2009 p 10). According to proponents of the cap and trade, big polluters will eventually be forced to reduce their emissions because the government will issue less pollution permits. As a result, polluters will be forced to reduce their

emissions to comply with pollution standards, since they will not be able to buy pollution rights from sources with better performances.

IV) Analysis of the Clean Power Plan

a) Environmental and Social Impact of the Clean Power Plan

The implementation of the Clean Power Plan is expected to reduce emissions of CO₂ in addition to generating substantial human benefits. Because the energy industry accounts for roughly one third of United States CO₂ emissions, the EPA believes that the Clean Power Plan will help mitigate climate change and its effects. “Under the rate-based approach, EPA projects annual CO₂ reductions of 3 percent below the base case in 2020, 11 percent below the base case in 2025, and 19 percent below base case projections in 2030” (EPA, 2015 p 129) reaching 28 percent to 32 percent below 2005 emissions in 2025 and 2030, respectively. For the mass-based approach, “EPA projects annual CO₂ reductions of 4 percent below the base case in 2020, 12 percent below the base case in 2025 and 19 percent below base case projections in 2030, reaching 29 percent to 32 percent below 2005 emissions in 2025 and 2030, respectively” (EPA, 2015 p 129). The base case in these projections is a business-as-usual scenario that would be expected in the absence of the Clean Power Plan.

Since the Clean Power Plan is believed to facilitate the transition to renewable energy production, the plan will have significant public health impacts. In fact, the transition to cleaner

sources of energy will better protect Americans from other harmful air pollution as well. By 2030, emissions of sulfur dioxide from power plants will be 90 percent lower compared to 2005 levels and emissions of nitrogen oxides will be 72 percent lower. Because these pollutants can create dangerous soot and smog, the reduction of these toxic gases will help avoid thousands of premature deaths as well as having thousands fewer asthma attacks and hospitalizations in 2030 and every year beyond (EPA, 2016 p 3). To be exact, the Clean Power Plan could help prevent “3,600 premature deaths, 1,700 heart attacks, 90,000 asthma attacks, and 300,000 missed workdays and school days” (EPA, 2016 p 3).

In a greater context, the plan itself is projected to contribute to significant pollution reduction, resulting in monetary benefits. For instance, it could contribute to a \$20 billion worth of climate benefits and a \$14 to \$34 billion worth in health benefits (EPA, 2016 p 4).

Furthermore, the Clean Power Plan also focuses on community involvement and environmental justice issues. As a matter of fact, “to ensure opportunities for communities to continue to participate in decision making, particularly low-income communities, minority communities, and tribal communities, EPA is requiring that states demonstrate how they are actively engaging with communities as part of their public participation process in the formulation of state plans” (EPA 2016 p 9). In accordance with Executive Order 12898, the EPA is required to make environmental justice a part of its mission. As a result, the final rule of the Clean Power Plan provides tools to reduce the exposure placed on minority, low-income, and indigenous communities from pollution and ensure that these communities are not

disproportionately affected by the rule (Small, 2016).

“The Clean Power Plan requires states to meaningfully engage with low-income and minority communities, identify communities currently suffering from air pollution and climate change, and evaluate how compliance plans will affect these communities. The rule also rewards states for implementing energy efficiency projects in low-income communities through the Clean Energy Incentive Program” (Small, 2016). For instance, the EPA will conduct air quality evaluations to determine whether air quality in all areas have improved in addition to determining the impacts that the state plans may have on vulnerable communities (Small, 2016).

Although the EPA argues that the Clean Power Plan will help reduce CO₂ emissions, and will thus contribute to public health improvement, its impact will only be limited. Even though electricity generation accounts for the single-largest source of carbon dioxide emissions in the United States, the estimated reduction is minuscule compared to global greenhouse gas emissions. Indeed, there will not be a significant change in global warming if the rest of the world does not seriously commit to CO₂ reduction. Climatologists, Paul Knappenberger and Patrick Michaels, estimate that the climate regulations will avert a meager -0.018 degree Celsius (C) of warming by the year 2100 (Loris, 2015). The U.S could even integrally cut its CO₂ emissions and the world will still be 0.1738 degree Celsius cooler by 2100 (Loris, 2015).

As a result, although the Clean Power Plan will not hurt public health, it will certainly not be as beneficial as the EPA portrayed it to be. The nature of CO₂ is such that its effects are

scattered worldwide, preventing state regulations to protect public health. In other words, countries depend on one another to protect health issues related to CO2 within their specific jurisdictions.

b) Economic Analysis of the Clean Power Plan

Although the fundamental purpose of the EPA's Clean Power Plan is to obtain the benefits that come with the reduction of CO2, much more attention has been turned to its direct and indirect economic significance. In its benefit/cost analysis, the EPA identified a number of potential economic impacts both positive and negative, including direct compliance costs incurred by owners of affected power plants and passed along, in part, to electricity consumers; expenditures on power production facilities with low or no carbon emissions; expenditures on energy efficiency measures; and changes in the markets for fuels (e.g., coal, natural gas) used to produce electricity (Hibbard et., al p 13).

The Clean Power Plan economic impact will be determined by multiple changes including: the use of different fuel to generate electricity, compliance costs, retirement of some electricity generators, the addition of new type of electricity generators, and much more. These impacts will create costs and benefits for local and regional economies that are challenging to predict.

The EPA argues that the compliance cost of the implementation of the final rule is expected to be low. Defined as an expenditure of time or money in conforming with

government requirements such as legislation or regulation, compliance costs include planning and administration, in addition to the direct time and money spent filing paperwork (Barbone et al, 2012 p 34). In this case, compliance costs refer to the increased power industry expenditures required to meet demand projections while complying with state goals, including the total demand-side energy efficiency costs, as well as measures and monitoring, reporting, and recordkeeping costs (EPA, 2015 p 144). According to EPA projections, the annual compliance cost of the rate-based scenario is \$2.4 billion in 2020, \$1.1 billion in 2025, and \$8.5 billion in 2030. The annual compliance cost of the mass-based approach is estimated to be \$1.4 billion in 2020, \$3.0 billion in 2025, and \$5.1 billion in 2030 (EPA, 2015 p 144). The annual amount of compliance cost represents the additional cost of complying with the rule in the year analyzed. In order to contextualize the expenditure costs, EPA compared them to projected power sector expenditures and revenue. According to the EPA, “the power sector is expected in the base case to expend over \$201 billion in 2030 to generate, transmit, and distribute electricity to consumers” (EPA, 2015 p 129). In context, the power sector generated \$389 billion in revenue from sales of electricity in 2014, a number that is expected to grow in the next years. In perspective, the cost of compliance of the Clean Power Plan only amounts to a 4 percent increase of the cost of meeting electricity demand. However, it will contribute to significant pollution reductions, resulting in important benefits, including a net benefit of \$26 to \$45 billion for the United States (EPA, 2015)

However, it is unclear whether all electricity power plants will be affected the same way. It may be the case that some electricity power plants will be more affected than others, increasing economic burdens, redistributed through customers. For instance, “In states where electric utilities own affected power plants, such costs will tend to be passed along to those utility’s consumers through regulated rates as a pass-through of a variable expense, or as recovery of and a return on compliance capital investments. That result will undoubtedly occur in the parts of the country where municipally owned utilities and electric cooperatives end up taking actions at the power plants that they own” (Hibbard et., al p 14).

c) Employment Analysis of the Clean Power Plan

The final rule of the Clean Power Plan will without a doubt have repercussions on employment in the United States. The Clean Power Plan will have direct and indirect effects on employment such as suppressing or adding jobs on a short or a long-term basis. In terms of direct employment impacts, the Clean Power Plan will affect the job market positively as well as negatively. The main driver of direct effects on employment is the change in electricity generation. The implementation of the Clean Power Plan is projected to lead to an 18.6 percent decline in coal-fired electricity generation by 2020, and a 26.1 percent decline by 2030 (Bivens, 2015 p 7). The natural gas fired electricity generation on the other hand is projected to rise 14.6 percent by 2020.

“Renewable energy production is projected to rise by 6.4 percent by 2020 relative to the non-CPP baseline” (Bivens, 2015 p 7). Instead of declining from a 3.5 percent to a 0.9 percent growth per year, as projected by the base case, the growth in renewable generation under implementation of the Clean Power Plan, increases to 5.0 percent per year. Over the long term, the rate of renewables growth approaches a steady annual rate in the range of 1.7-1.9 percent in both cases (EIA, 2015 p 52). In the Southwest region however, renewable energy generation is estimated to have an annual growth rate of 4.7 percent.

Finally, relative to the base rate, total electricity generation is expected to fall 2.8 percent by 2020 and 11.3 percent by 2030. As a result, “In 2020, coal extraction employment is down 12,600 jobs relative to the non-CPP baseline” (Bivens, 2015 p7). In other words, employment in the coal mining industry is projected to be 12,600 jobs lower than it would otherwise be that year because of the Clean Power Plan implementation. In 2025, the coal mining industry is projected to have 2,700 less jobs that it would have if the Clean Power Plan was not implemented. However, the coal mining industry will still expand, this data only shows that job employment in the coal mining industry will increase less intensively (Bivens, 2015 p 7). Other industries are expected to increase employment significantly more with the implementation of the Clean Power Plan. For instance, the construction industry is projected to create 16,160 additional jobs by 2020, 3,203 additional jobs by 2025 and 1,313 additional jobs by 2030 (Table 4.). In other words, without the implementation of the Clean Power Plan, the construction industry will not benefit from the employment boost caused by the final rule. As a

whole, the direct employment change under the Clean Power Plan is projected to have a net gain, relative to the baseline, of 95,675 jobs by 2020, 30,100 by 2025, and 14,880 by 2030.

Table 4.1

Direct employment changes under the Clean Power Plan by industry in 2020, 2025, and 2030									
	Gains			Losses			Net		
	2020	2025	2030	2020	2025	2030	2020	2025	2030
<i>Oil and gas extraction</i>	5,050	2,700	0	0	0	2,000	5,050	2,700	-2,000
<i>Coal mining</i>	0	0	0	12,600	15,300	17,300	-12,600	-15,300	-17,300
<i>Electric power generation, transmission and distribution</i>	0	0	0	11,663	20,425	24,300	-11,663	-20,425	-24,300
<i>Construction</i>	16,160	3,203	1,313	0	0	0	16,160	3,203	1,313
<i>Plastics product manufacturing</i>	953	0	0	0	345	129	953	-345	-129
<i>Machine shops: hardware</i>	1,389	0	0	0	503	188	1,389	-503	-188
<i>Fabricated metal</i>	2,104	0	0	0	4,633	5,977	2,104	-4,633	-5,977
<i>HVAC equipment manufacturing</i>	20,573	17,269	17,440	0	0	0	20,573	17,269	17,440
<i>Engine, turbine and power transmission equipment manufacturing</i>	12,970	0	0	0	5,107	8,048	12,970	-5,107	-8,048

<i>Machinery manufacturing</i>	2,937	0	0	0	1,064	398	2,937	-1,064	-398
<i>Communications equipment</i>	551	763	771	0	0	0	551	763	771
<i>Electric lighting manufacturing</i>	30,388	42,114	42,530	0	0	0	30,388	42,114	42,530
<i>Household appliance manufacturing</i>	2,624	3,637	3,673	0	0	0	2,624	3,637	3,673
<i>Electrical equipment manufacturing</i>	4,164	3,342	3,695	0	0	0	4,164	3,342	3,695
<i>Other electrical equipment and component manufacturing</i>	1,627	0	0	0	589	220	1,627	-589	-220
<i>Design services</i>	1,152	0	0	0	4,288	5,848	1,152	-4,288	-5,848
<i>Management, scientific and technical consulting services</i>	8,113	0	0	0	0	0	8,113	0	0
<i>Scientific research and development services</i>	1,945	0	0	0	704	263	1,945	-704	-263
<i>Services to buildings and dwellings</i>	7,238	10,031	10,130	0	0	0	7,238	10,031	10,130
Total	119,938	83,059	79,552	24,263	52,959	64,672	95,675	30,100	14,880

Source: EPA Regulatory Impact Analysis of Clean Power Plan (2014)

V) States, The Court, and the Clean Power Plan

a) Legal Challenge Against the Clean Power Plan

The Clean Power Plan and its surrounding litigation have become an important topic in the United States and on the international scene. After the publication of the final rule in the Federal Register in October 2015, an important number of states and stakeholders filed suit

against the EPA. On October 23, 2015, multiple parties petitioned the D.C. Circuit Court of Appeals to review the EPA's Clean Power Plan. The court has consolidated the petitions into a single docket named "The State of West Virginia, et al., v. EPA" (Clean Power Plan Litigation Updates, 2016). In addition, parties have filed nine motions to stay the Clean Power Plan pending judicial review. If the court granted a stay, deadlines in the rule would be suspended at least until the D.C. Circuit issues its decision about the legality of the rule (Clean Power Plan Litigation Updates, 2016).

Petitioners who "include the States of West Virginia, Texas, Alabama, Arkansas, Colorado, Florida, Georgia, Indiana, Kansas, Louisiana, Missouri, Montana, Nebraska, New Jersey, Ohio, South Carolina, South Dakota, Utah, Wisconsin, Wyoming, and the Commonwealth of Kentucky, the Arizona Corporation Commission, the State of Louisiana Department of Environmental Quality, the State of North Carolina Department of Environmental Quality, and Attorney General Bill Schuette on behalf of the People of Michigan", brought suit against EPA and Regina A. McCarthy, an Administrator of the United States Environmental Protection Agency. Petitioners asked the D.C. Circuit to issue a stay on the implementation of the rule until resolution of the legal challenges (Clean Power Plan Litigation Updates, 2016).

To file a motion for a stay, parties requesting the stay must successfully demonstrate that: they are likely to win their challenge, if the stay is not granted they will be irreparably injured, the public interest favors a stay, and a stay will not injure other parties (Clean Power

Plan Litigation Updates, 2016).

To demonstrate that they are likely to win their challenge, petitioners primarily relied on two main arguments. First, they argued that the Clean Air Act forbids regulation of coal-fired power plants under section 111(d) because they are already regulated under section 112 for their toxic pollution. In this section, petitioners use the ruling of *UARG v. EPA*, 134 S. Ct. 2427 (2014), to support their argument. In *UARG v. EPA*, 134 S. Ct. 2427 (2014), the court held that, EPA may not treat greenhouse gas as an air pollutant for purposes of determining whether a source, is a major source required to obtain a Prevention of Significant Deterioration permits or Title V permits. Petitioners also held that the Power Plan far exceeds the authority Congress granted to EPA under Section 111 (d) because the Plan goes well beyond improving efficiency at individual existing power plants. In fact, it attempts to regulate each State's energy generation mix (*The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)*).

As stated previously, petitioners maintained that the Clean Air Act forbids the regulation of coal-fired power plants under section 111(d) because they are already regulated under section 112 for their toxic pollution (Clean Power Plan litigation updates, 2016). They claimed that “the section 112 Exclusion prohibits EPA from regulating under Section 111 (d) “any air pollutant” emitted from a source category which is regulated under [Section 112]” (*The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)*). Petitioners stated that the Supreme Court aligned with their view when it said that “EPA may not employ [Section 111 (d)] if existing stationary sources of the pollutant in question are regulated ... under [Section 112]” in *Am.*

Elec. Power Co. Inc. v. Connecticut, 131 S. Ct. 2527, 2537 n.7 (2011).

Petitioners presented these three arguments to the D.C. Circuit to prove that they are likely to win their challenge.

Additionally, petitioners maintained that the Power Plan's illegality is reinforced by “the statutory canons that an agency is afforded no deference when it seeks to invade “areas traditionally regulated by the States or asserts power where it lacks expertise” (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)). Petitioners held that the authority and expertise to regulate the electrical grid lies primarily with the states and, to a more limited degree, with FERC. States' power over the intrastate generation and consumption of electricity is “one of the most important functions traditionally associated with the police powers of the states” (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)). According to petitioners, it is recognized by Congress through the enactment of the Federal Power Act, which acknowledges the state's “traditional responsibility in the field of regulating electrical utilities for determining questions of need, reliability, cost, and other related state concerns” (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)). Moreover, petitioners asserted that the Federal Power Act jurisdiction over electricity markets is limited to the transmission of electric energy in interstate commerce and the sale of such energy at wholesale in interstate commerce. This authority is given to the Federal Power Act, not to EPA petitioners argued. It is actually a role that petitioners claimed the EPA acknowledges. Petitioners based their argument on a comment Melanie King of the EPA’s Office of Air Energies Strategies

division made in 2013. She stated that "the issues related [to] management of energy markets and competition between various forms of electric generation are far afield from EPA's responsibilities for setting standards under the Clean Air Act" (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)).

Second, parties requesting a stay must successfully demonstrate that they will irreparably be injured if the stay is not granted. In this section, petitioners claimed that states will suffer immense sovereign harms absent a stay because the Clean Power Plan requires the states to immediately "debate, design, and enact significant legislative and regulatory changes to programs governing intra-state electricity markets" (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)).

Petitioners affirmed that many "states will need to enact legislations in the next 1 to 2 years to ensure the growth in renewable energy sources and natural gas that will be needed to be in place by 2022 to enable compliance with the Power Plan's stringent targets" (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)). Petitioners added that "states will also need to amend innumerable rules, including those that might prevent their state public utility commissions from mitigating the Plan's negative market and energy reliability impacts" (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)).

For these reasons, petitioners believe that states' sovereign choices will be undermined. In fact, they claimed that not only will an implementation of the Clean Power Plan displace state policies "carefully crafted" over decades to ensure the most optimal electricity generation

and distribution, an implementation of the Clean Power Plan will also limit the finite time that legislators can devote to their own sovereign priorities” (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)). In addition to causing sovereign harms, petitioners contended that the Clean Power Plan will cause irreparable economic harms upon the states. Efforts put on conforming to the final rule will cost the states tens of thousands of unrecoverable hours and millions of un-refundable dollars claimed petitioners. For instance, according to petitioners, each state could spend \$500,000 to \$1 million on consultants alone (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)). Petitioners also asserted that utilities will shut down coal-fired plants to comply with the Clean Power Plan, which will affect coal companies and employees.

Moreover, petitioners argued that, the final rule is “imposing immediate and irreparable harms upon states. Petitioners claimed that at the time the final rule was published, EPA’s set timeline “intended to force the states and other entities to make irreversible decisions before judicial review concludes” (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)). In order to meet the deadlines imposed by the EPA, states would have to take steps towards determining whether and how they will reorganize their electrical generation, transmission, and distribution system; decommission coal generation; mandate the use of natural gas generation while imposing strict carbon dioxide emissions limits on that generation; adopt a cap-and-trade regime; radically increase investment in new renewable energy plants; and establish backup generation” (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C.

Circuit)). Tasks impossible to do in such a limited amount of time concluded petitioners.

Moreover, petitioners stated that it will involve significant legislative and regulatory changes and massive taxpayer expenditures that can never be recouped.

Third, in order to prove that the public interest favors a stay, petitioners affirmed that because the final rule demands the retirement of some coal fired power plants, there will be a reduction in electricity supply of one of the most reliable source of energy, resulting in higher energy prices, threatened blackouts during periods of increased demand, and lost jobs (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)). According to petitioners, a stay would “silence the whirlwind of confusion that springs from uncertainty about the requirements of the new Rule and whether they will survive legal testing while honoring the policy of cooperative federalism” (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)).

Finally, to prove that a stay will not injure other parties, petitioners claimed that the Clean Power Plan will have little effect on global greenhouse gas emissions, and therefore delaying its implementation will not have significantly negative environmental effects. They also noted that EPA missed its own deadline for issuing the rule, which demonstrates that a delay will not have any material effect (Clean Power Plan Litigation Updates, 2016).

b) EPA's Arguments

After several parties filed a motion to stay the Clean Power Plan in October 2015, on December 3 2015, the U.S. Department of Justice responded to the stay requests on behalf of EPA. In its response, EPA argued that petitioners failed to demonstrate the likelihood of success on the merits. First, defendants held that The Clean Power Plan “represents a direct and straightforward application” of Section 111(d) of the Clean Air Act. Although it is true that section 111 is straightforward, it is not clear whether this section allows EPA to regulate CO₂ from power plants.

Defendants stated that section 111(d) expressly instructs EPA to “establish a procedure similar to that provided by Section 7410,” (Clean Air Act, 2004). Section 7410 describes the National Air Ambient Quality Standards Program in which a cooperative-federalism approach affords states wide discretion in choosing methods of air pollution control. In particular, section 7410 authorizes state plans to include a range of non-technological off-site measures for sources, including marketable permits (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)). Defendants held that this explicit connection between these two sections of the Clean Air Act, suggests that Congress intended that states, in implementing Section 111, be able to use similarly flexible emission reduction mechanisms, including trading programs that promote relatively greater use of low-emitting facilities.

Additionally, defendants claimed that the final rule does not intrude on areas of regulation reserved to the states or other federal agencies. According to EPA, Congress specifically

provided the authority to regulate dangerous air pollution, including CO₂ from power plants, because this pollution poses urgent hazards that require a meaningful federal response (*The State of West Virginia, et al., v. EPA* No. 14-1146 (D.C. Circuit)). Congress entrusted the EPA as the “expert administrative agency,” to determine the “appropriate amount of [CO₂] regulation” from power plants by engaging in “complex balancing” which weighs “the environmental benefit potentially achievable” against “the Nation’s energy needs and the possibility of economic disruption (*American Electric Power v. Connecticut*, 131 S. Ct. 2527 (2011)). Defendants also alleged that the Supreme Court has recognized EPA as an expert agency equipped to make suitable regulatory judgments about CO₂ pollution from power plants. Neither FERC nor any other federal agency was entrusted with that particular responsibility.

Furthermore, defendants claimed that under the final rule of the Clean Power Plan, states will retain the same authorities they have always had. For instance, states will retain the authority to regulate retail electricity sales in intrastate markets and to license new power generation facilities disruption ((*The State of West Virginia, et al., v. EPA* No. 14-1146 (D.C. Circuit)). EPA also claimed that “while some power generators might need to spend more to comply with CO₂ standards applicable to their plants, costs for compliance with emission standards are regularly incorporated into power prices without usurping a state’s authority over its energy market” (*The State of West Virginia, et al., v. EPA* No. 14-1146 (D.C. Circuit)). In fact, defendants maintained that the Clean Power Plan aims only to set CO₂ emission regulations, which will only indirectly affect the type of projects power plants propose; not the

authority of states to determine whether to license those projects.

Additionally, EPA contended that they drafted the Clean Power Plan with an emphasis on flexibility to preserve state's sovereignty. Defendants claimed that "EPA has provided states with extremely broad flexibility to choose from a range of alternative approaches in crafting plans to obtain the reductions in the guidelines. A state can impose different obligations on its sources, as long as the overall level of emission limitation is at least as stringent as the guidelines (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)). For instance, states can elect to require technological controls for plants. States can also simply require emission limits on power plants. Under this approach, power plants can determine on their own what are the best ways to reach these goals.

EPA responded to the claim that a stay prevents irreparable harm to industry and states by using two main arguments. First, EPA argued that state planning does not constitute irreparable harm. Defendants held that developing a compliance plan prior to judicial review of a rule is "neither exceptional nor extraordinary, but rather is an inherent and foreseeable consequence of cooperative federalism under the Clean Air Act (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)). EPA held that states have designed plans of "comparable complexity" and under tighter deadlines for other Clean Air Act programs. In fact, in this specific case, states have considerable flexibility and timing as they do not need to submit a plan until 2018. EPA also allows deadline extensions if need be. Moreover, states who do not want to spend resources on drafting their own plans have two alternative options. On one hand, they

can have EPA develop and implement a federal plan for state power plants or they can set limits on sources' emissions and let power plants operate under these limits (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)). Defendants maintained that if the court grants a stay on this basis, it would "open the door to treating virtually any agency action requiring state implementation as causing irreparable harm" (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)).

Second, EPA explained that industries' potential economic losses do not constitute irreparable harm. EPA pointed to case law holding that economic losses can only justify a stay if they are "imminent and substantial" and can be prevented by a stay (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)). However, defendants demonstrated that, contrary to petitioners' claims, the final rule of the Clean Power Plan does not require any immediate action by power plants. Defendants called petitioners argument purely speculative because "specific consequences of the rule are unknowable since state plans, which have not yet been filed, will dictate requirements for particular plants" (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)). Furthermore, defendants stated that "even if movants take some actions during litigation in anticipation of compliance obligations, they "have not demonstrated that such [actions] are required by the Rule or that a stay would prevent such" actions" (Clean Power Plants Litigation Updates, 2016). For instance, "some plant owners may choose to shut down plants in the near term for economic reasons, such choices are not "required" by the Rule and there is no evidence that such plant owners will make a different choice if the Court

decides to enter a stay” (The State of West Virginia, et al., v. EPA No. 14-1146 (D.C. Circuit)).

EPA explained that many recent plant and mine closures can be attributed to underlying economic conditions and a trend that have spurred the nationwide shift away from coal-fired generations and towards natural gas powered generation.

c) Viewpoint of the Supreme Court

On December 8, 2015, parties supporting EPA filed motions in opposition of the stay. Supporters include sixty municipalities across the country including Tucson, Arizona; power companies that own and operate more than ten percent of the nation’s generating capacity; leading businesses like Apple, Google, Mars and IKEA; public health and environmental organizations; consumer and ratepayer advocates; faith organizations; and many others. Numerous legal experts including drafters of the Clean Air Act, former EPA Administrators who served under Presidents Nixon, Reagan, and Bush, and former state energy and environmental officials have also affirmed the strong legal basis for the Clean Power Plan (Carbonell, 2016). Supporters made the argument that the Clean Power Plan is lawful, a stay will not cause irreparable harm, and a stay is not in the public interest (Clean Power Plants Litigation Updates, 2016). Following the amicus curiae, the U.S. Court of Appeals for the D.C. circuit denied the motion filed by petitioners because “petitioners have not satisfied the stringent requirements for a stay pending court review” (USCA Case #15-1363).

Following the denial of the U.S. Court of Appeals for the D.C., petitioners filled application

with Chief Justice John Roberts for immediate stay of the Clean Power Plan on January 27, 2016. On February 9, 2016, The Supreme Court granted the stay, setting back the Clean Power Plan until resolution of the matter (Clean Power Plants Litigation Updates, 2016). The U.S. Supreme Court heard oral arguments on September 27, 2016. The court granted en banc review, meaning that all of the court's active judges will decide the case. Opinion of the court is still pending.

VI) Analysis: The Clean Power Plan, an Example of Federalism Failure?

a) Understanding the Concept of Federalism

Defined as “an intergovernmental system of state governments and the national government”, federalism is one of the most important aspects of the United States’ political system (Farber, 2013 page 16). If there is one matter upon which the legal community agrees, it is that the U.S. Constitution establishes a federal system of government (Hudson, 2014 page 1646-1687). However, there is still an academic debate over what the structure of American federalism ought to be (Traore, 2016). Indeed, there have been disagreements regarding descriptive jurisprudential claims of how federalism in fact operates in the United States and disagreements over normative claims of how federalism *should* in fact operate (Hudson, 2014 page 1646-1687).

Proponents of dual federalism posit that “the states and the federal government inhabit

mutually exclusive spheres of power” (Hudson, 2014 page 1646-1687). In other words, this doctrine argues that separate spheres of regulatory authority do in fact exist, and that, based on the Constitution, the states or the federal government do not have jurisdiction over areas constitutionally restricted to others (Hudson, 2014 page 1646-1687). Cooperative federalism is another view which claims that federalism is an arrangement whereby “a national government induces coordination from subordinate jurisdictions, such as states and tribes” (Fischman, 2005). In other words, it is a concept of federalism in which national, state, and local governments interact cooperatively and collectively to solve common problems, rather than making policies separately.

The truth is, all these opinions on what federalism is or ought to be, are description of different characteristics of the American federalism. Federalism in the United States depending on the subject matter of regulation, is, dual, or cooperative. For instance, within the federal framework, some matters are exclusively regulated by states such as education, some matters are exclusively regulated by the federal government such as national protection, and some matters are regulated by both, such as air quality (Traore, 2016).

b) The Clean Power Plan and Federalism

The Clean Power Plan and its legal complications can be seen as an example of federalism failure because of the conflictual position between states and the federal government. The Clean Power Plan challenge is mainly based on federalism, not on the

feasibility of the final rule. Shortly after Nevada's Attorney General Adam Laxalt filed an Amicus Curiae brief to the court in support of the states suing EPA, environmental groups criticized his stand on the matter. For instance, Robert Johnston, attorney at Western Resource Advocate, an environmental group, stated that "Attorney General Laxalt's opposition to the Clean Power Plan is out of step with Nevada's commitment to advancing clean energy that protects public health, the environment, and our clean energy economy. Our state has been proactive in developing and enacting clean energy policies for more than a decade ... As a result, Nevada is in a strong position to comply with the goal of a 35% reduction from 2005 levels by 2030 contemplated in the final rule. There is no logical reason for Laxalt to oppose the EPA" (Mitchell, 2016).

However, there is a logical reason. Laxalt opposed the Clean Power Plan on the ground that the federal Government, through EPA, is infringing states' sovereignty granted by the 10th amendment. In fact, this argument has been vastly used in Amicus Curiae briefs filed against the Clean Power Plan.

In their appeal to the Supreme Court, petitioners requesting stay on the final rule also claimed that "the Clean Power Plan raises serious federalism concerns. It is a 'well-established principle that it is incumbent upon the federal courts to be certain of Congress' intent before finding that federal law overrides the usual constitutional balance of federal and state powers...the states argue. The Power Plan cannot be squared with that principle. The states' authority over the intrastate generation and consumption of energy is 'one of the most important functions traditionally associated with the police powers of the states'" (Mitchell,

2016). Because states vigorously opposed the final rule based on sovereignty violation arguments, it is understandable to see federalism as a flawed system in terms of environmental regulations. Federalism's failure to establish a cooperative relationship, in order to set a national climate change mitigation strategy between states and the federal government, can be seen through the Clean Power Plan litigations revealing a prevailing tense relationship between states and the federal government.

c) Another Kyoto Protocol?

Similarly, to the Clean Power Plan, the United States failed to ratify the Kyoto Protocol because of disagreements between states and the federal government. "Under the Kyoto Protocol industrialized countries, except the U.S. agreed to reduce their greenhouse gas emissions by an average of 5.2 percent by 2012 based on 1990 levels. The agreement entered into force in 2005 after being ratified by 127 countries" (Amundsen and Lie, 2010). Many argue that the United States failed to ratify the Kyoto Protocol because of its political system. Some actually believed that if Clinton and Gore could sign an agreement committing the U.S. to reduce emissions by seven percent, they would also be able to gain approval for it at home. But that was not the case (Amundsen and Lie, 2010). States through Congress opposed the ratification of the rule, preventing the United States to commit to reducing its CO₂ emissions.

As established in the previous section, the prevailing tensions between states and the federal government as well as the opposition of states to "cooperate" with the federal

government's Clean Power Plan, expose flaws in American federalism. Because of states' position and interests, federalism has historically prevented the federal government from putting forth stringent CO2 emission regulations.

VII) Summary

The electricity industry is an economically and geographically vast industry. Thus, its regulation is divided between different governing bodies including, the federal government, states, and tribal governments. Because electricity generation accounts for about one third of United States' CO2 emissions, the Environmental Protection Agency has decided to put forth a plan aiming to reduce CO2 emissions. Indeed, climate change is believed to significantly impact United States' citizens. Therefore, EPA argues that, not only will implementing the Clean Power Plan help mitigate the impact of climate change on U.S. citizens, it will also facilitate the transition toward renewable energy. EPA, based on the section 111(d) of the Clean Air Act, asserted their rights to regulated CO2 emissions of power plant in order to reduce power plants CO2 emissions (EPA, 2016).

EPA identifies three areas of focus. First, the Clean Power Plan proposes to increase efficiency and reduce the carbon intensity of electricity generation by improving the heat rate

of existing coal-fired power plants. Improved heat rate allows plants to generate the same amount of electricity using less fuel. Second, the plan suggests substituting increased electricity generation from lower-emitting existing natural gas plants for reduced generation from higher-emitting coal-fired power plants. And finally, the Clean Power Plan recommends substituting increased electricity generation from new zero-emitting renewable energy sources, such as wind and solar, for reduced generation from existing coal-fired power plants (EPA, 2016). EPA believes that the implementation of the Clean Power Plan will benefit the environment, public health, and will spur job growth.

However, the Clean Power Plan proposal faced fierce opposition by states and stakeholders. They argued that EPA does not have authority to regulate CO₂ emissions of electric power plants, asking the court to stay the rule. EPA, responded that petitioners' arguments had no rational basis, asking for the dismissal of the case. Although the United States Court of Appeals for the District of Columbia Circuit dismissed the case, the Supreme Court decided to hold a hearing. There has been no judicial decision from the part of the Supreme Court regarding the matter yet.

Finally, the Clean Power Plan and its legal hurdles can be seen as a failure of federalism to create a cooperation between states and the federal government. Because of states' own interests, the United States has not been to successfully establish a law targeting CO₂ emissions.

Regardless of the Supreme Court decision, the future of the Clean Power Plan seems gloomy. President-elect Trump's position on Climate Change, most likely means that the final rule will be aborted. President -elect Trump proposed A Moratorium on the Clean Power Plan, adding that the rule would eliminate jobs, reduce economic outputs, and reduce income (League of Conservative Voters, 2016). During a September 2016 speech at the Economic Club of New York, Trump said, "Every year, over regulation costs our economy \$2 trillion a year and reduces household wealth by almost \$15,000. I propose a moratorium on new federal regulations that are not compelled by Congress or public safety, and I will eliminate all needless and job-killing [regulations] now on the books – and there are plenty of them. This includes eliminating some of our most intrusive regulations, like the Waters of the U.S. rule. It also means scrapping the EPA's so-called Clean Power Plan, which the government itself estimates will cost \$7.2 billion a year" (League of Conservative Voters, 2016 p 2).

References

- Am. Elec. Power Co. Inc. v. Connecticut, 131 S. Ct. 2527, 2537 n.7 (2011).
- Amundsen, B. & Lie, E. (2016). *Why the Kyoto agreement failed - The Research Council of Norway*. *Forskningradet.no*. Retrieved 27 November 2016, from http://www.forskningradet.no/en/Newsarticle/Why_the_Kyoto_agreement_failed/1253963392536
- UARG v. EPA, 134 S. Ct. 2427 (2014)
- Bivens, J. (2016). *A COMPREHENSIVE ANALYSIS OF THE EMPLOYMENT IMPACTS OF THE EPA'S PROPOSED CLEAN POWER PLAN*. *epi.org*. Retrieved 4 October 2016, from <http://www.epi.org/files/pdf/79246.pdf>
- Dennekamp, M., and M. J. Abramson, 2011: The effects of bushfire smoke on respiratory health. *Respirolog y*, 16, 198-209, doi:10.1111/j.1440-1843.2010.01868.x.
- Carbonell, T. (2016). *The Legal Case for the Clean Power Plan — in a Nutshell*. *Climate 411*. Retrieved 11 November 2016, from <http://blogs.edf.org/climate411/2016/09/26/the-legal-case-for-the-clean-power-plan-in-a-nutshell/>
- Clean Power Plan Litigation Updates*. (2016). *environment.law.harvard.edu*. Retrieved 18 November 2016, from <http://environment.law.harvard.edu/wp-content/uploads/2015/08/Clean-Power-Plan-Litigation-Updates-Apr-2016.pdf>
- Confalonieri, U., B. Menne, R. Akhtar, K.L. Ebi, M. Hauengue, R.S. Kovats, B. Revich and A. Woodward, 2007: Human health. *Climate Change 2007: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., University Press, Cambridge, UK, 391-431.
- Energy Information Administration,. (2015). *Analysis of the Impacts of the Clean Power Plan*. Washington.
- Environment Protection Agency,. (2016). *OVERVIEW OF THE CLEAN POWER PLAN CUTTING CARBON POLLUTION FROM POWER PLANTS*. *epa.gov*. Retrieved 6 September 2016, from <https://www.epa.gov/sites/production/files/2015-08/documents/fs-cpp-overview.pdf>
- Environmental Protection Agency,. (2015). *Clean Power Plan Final Rule*. Retrieved 22 October 2016, from <https://www.gpo.gov/fdsys/pkg/FR-2015-10-23/pdf/2015-22842.pdf>

- Environmental Protection Agency,. (2016). *Sources of Greenhouse Gas Emissions | Greenhouse Gas (GHG) Emissions | US EPA. Epa.gov*. Retrieved 18 November 2016, from <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>
- Farber, D. & Findley, R. (2008). *Environmental law in a nutshell* (9th ed., p. 12). St. Paul: West Academic Publishing.
- Fischman, R. (2005). *Cooperative Federalism and Natural Resources Law. Ssrn.com*. Retrieved 12 November 2016, from <http://ssrn.com/abstract=824385>
- Gilbertson, T. & Reyes, O. (2009). Carbon Trading How it works and why it fails. *Critical Currents*, 7. Retrieved from <https://www.tni.org/files/download/carbon-trading-booklet.pdf>
- Hudson, B. (2016). Dynamic Forest Federalism. *Washington And Lee Law Review*, Volume 71(Issue 3), 1646-1687. Retrieved from <http://scholarlycommons.law.wlu.edu/cgi/viewcontent.cgi?article=4414&context=wlulr>
- Lazar, J. (2016). *Electricity Regulation in the US: A Guide*. Second Edition. Montpelier, VT: The Regulatory Assistance Project. Retrieved from <http://www.raponline.org/knowledge-center/electricityregulation-in-the-us-a-guide-2>
- League of Conservative Voters,. (2016). *IN THEIR OWN WORDS 2016 PRESIDENTIAL CANDIDATES ON THE CLEAN POWER PLAN*. www.lcv.org/. Retrieved 18 November 2016, from <http://www.lcv.org/assets/docs/presidential-candidates-on-cpp.pdf>
- Loris, N. (2016). *The Many Problems of the EPA's Clean Power Plan and Climate Regulations: A Primer*. *The Heritage Foundation*. Retrieved 22 November 2016, from <http://www.heritage.org/research/reports/2015/07/the-many-problems-of-the-epas-clean-power-plan-and-climate-regulations-a-primer>
- Luber, G., K. Knowlton, J. Balbus, H. Frumkin, M. Hayden, J. Hess, M. McGeehin, N. Sheats, L. Backer, C. B. Beard, K. L. Ebi, E. Maibach, R. S. Ostfeld, C. Wiedinmyer, E. Zielinski-Gutiérrez, and L. Ziska, 2014: Ch. 9: Human Health. *Climate Change Impacts in the United States: The Third*
- Mercer, G. (2016). *The Link Between Zika and Climate Change*. *The Atlantic*. Retrieved 5 November 2016, from <http://www.theatlantic.com/health/archive/2016/02/zika-and-climate-change/470643/>
- MITCHELL, T. (2016). *Clean Power Plan challenge is based on federalism*. *Elko Daily Free Press*. Retrieved 25 October 2016, from http://elkodaily.com/news/opinion/clean-power-plan-challenge-is-based-on-federalism/article_46e4bc2c-9625-5e77-9ccc-154430d11ec2.html

- National Climate Assessment, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 220-256. doi:10.7930/JOPN93H5.
- Public Broadcast Service,. (2014). *Regulation - Public Vs. Private Power | Blackout | FRONTLINE | PBS. Pbs.org*. Retrieved 4 October 2016, from <http://www.pbs.org/wgbh/pages/frontline/shows/blackout/regulation/timeline.html>
- Robertson, C. (2016). *Thousands Displaced in Storm-Drenched Louisiana. Nytimes.com*. Retrieved 18 September 2016, from http://www.nytimes.com/2016/08/15/us/louisiana-storm-floods-rescue.html?_r=0
- Small, L. (2016). *Environmental Justice in the Clean Power Plan | Briefing | EESI. Eesi.org*. Retrieved 12 October 2016, from <http://www.eesi.org/briefings/view/022216justice>
- State of West Virginia, et al. v. EPA, U.S. Court of Appeals for the D.C. Circuit,
- Sunshine, W. (2016). *Who Really Regulates Energy Companies in the United States?. The Balance*. Retrieved 8 October 2016, from <https://www.thebalance.com/who-regulates-energy-companies-in-the-united-states-1182615>
- Traore, S. (2016). *Understanding Environmental Laws and Regulations: The Role of Federalism in Developing a National Climate Change Adaptation Strategy. A Study Case of US Forest Lands*. Unpublished.
- USCA Case #15-1363
- U.S. Const. art. VII, § 2
- Wickard v. Filburn, 317 U.S. 111 (1942)
- Ziska, L., K. Knowlton, C. Rogers, D. Dalan, N. Tierney, M. Elder, W. Filley, J. Shropshire, L.B. Ford, C. Hedberg, P. Fleetwood, K.T. Hovanky, T. Kavanaugh, G. Fulford, R.F. Vrtis, J.A. Patz, J. Portnoy, F. Coates, L. Bielory, and D. Frenz. 2011. Recent warming by latitude associated with increased length of ragweed pollen season in central North America. *P Natl. Acad. Sci. USA* 108:4248–4251.