

THESIS

THE "POWER" OF COAL: THE US DIPLOMATIC COAL REGIME UNDER THE CURRENT GLOBAL  
ENVIRONMENTAL DISCOURSE

Submitted by

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In partial fulfillment of the requirements

For the Degree of Master of Arts

Colorado State University

Fort Collins, Colorado

Spring 2017

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## ABSTRACT

### THE “POWER” OF COAL: THE US DIPLOMATIC COAL REGIME UNDER THE CURRENT GLOBAL ENVIRONMENTAL DISCOURSE

Considering the scientific consensus that anthropogenic forces intensify climate change, addressing this “wicked” problem requires international cooperation to mitigate disastrous future global impacts. The increasing rate of international treaties and agreements focused on addressing climate change emphasize sustainable development as the global discourse for the environment. This thesis describes the global discourse, or more specifically a global environmental regulatory regime, as it emerges from the annual meetings of United Nations Framework Convention on Climate Change parties. Although it has been argued that these Conferences of Parties lack the enforcement mechanisms needed to directly affect the environmental regulations of nation-states, I argue that the international discourse on sustainable development has an indirect effect on state sovereignty, specifically related to domestic energy development and the US coal industry. In an effort to highlight this point, I discuss the alignment of recent attempts at environmental regulation in the United States related to the coal industry to the global environmental discourse.

## ACKNOWLEDGEMENTS

First and foremost, I want to thank Dr. Pete Taylor for his unwavering guidance throughout this research project. Without his support, this thesis would not have been possible. He provided mentorship during my time at Colorado State University that helped me develop as a sociologist, both fostering my research interests and providing an environment for me to act autonomously. Thanks to Dr. Pete Taylor, I was able to internalize his advice during my time at Colorado State, develop a thesis I am proud of, and pursue a future in academia.

In addition, I want to thank my committee—Dr. Stephanie Malin, Dr. Pat Mahoney, and Dr. Dimitris Stevis—for their continued support throughout this thesis. I also want to thank my family for their unyielding support in me and encouragement to ever even give college a shot. Furthermore, I want to thank my partner, Amber Kizewski, for pushing me to work hard and putting up with me during this research endeavor. Finally, I want to thank my amazing cohort at Colorado State University for not only being a network of support in the academic sphere but also the best of friends.

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## CHAPTER 1: INTRODUCTION

The nearly unanimous scientific consensus that increasing concentrations of greenhouse gases in the atmosphere cause climate change and the warming of the Earth's surface demands attention at all levels of society. Bill McKibben describes global warming as the third World War in regards to the war-like impacts of climate change: "seizing physical territory, sowing havoc and panic, racking up casualties, and even destabilizing governments" (2016: 2). He proposes war-time-like mobilization and a unified front in order to address this increasingly relevant global threat.

Since the United Nations Framework Convention on Climate Change's (UNFCCC) treaty of 1992, the UN's annual Conferences of Parties (COP) attempt to gather national governments together in order to negotiate and address the intensifying threat of climate change. Although the agreements made do not align with the required war-time action proposed by McKibben, the rise of this supranational environmental institution presents a new arena for international relations and power dynamics to take shape and, consequently, the formulation of a new global environmental regulatory regime. The purpose of this thesis is to explore this environmental arena and its potential influence on individual nation-states, specifically the case of the United States' executive branch of government.

In addition to the physical threats that climate change poses for nations, the changing climate also creates a context for international negotiations and subsequent treaties that hold the potential to constrain state sovereignty. The rise of supranational regulatory institutions

threatens nation-state sovereignty by both limiting the potential for nations to act in isolation and implementing rules for international relations and development. With regards to an environmental institution aimed at addressing climate change, a problem intensified by polluting emissions, the rules for development pertain to energy.

The broader theoretical concern guiding the following analysis is nation-state sovereignty in an interconnected world, but in the context of climate change and supranational regulatory institutions, state legitimacy and threats to energy development and thus national security also arise as pressing concerns. International agreements provide a framework under which nation-states operate, which would then limit state sovereignty by casting a regulatory net that domestic regulations must then align within. When this net proposes changes to energy production and development different from the historical norm, this threatens the entire infrastructure of a nation as it affects all social spheres of a society. The executive administration must then attempt to maintain legitimacy not only to its public but also those states involved in the international agreement or else legitimacy is lost along with the overall power and influence of the state domestically and internationally.

Emerging from these concerns are three research questions. First, how does a global environmental regulatory regime shape a nation-state's role in addressing both domestic and international environmental concerns? Answering this question would help determine the significance of UNFCCC agreements in affecting, either directly or indirectly, domestic environmental regulations. The second research question is, what is the role of a modern environmental state? Essentially, this question addresses how the modern nation-state balances domestic and global legitimacy and environmental regulations with national interests.



The third research question focuses specifically on US historical coal regimes and international environmental leadership: How has the significance and role of coal in the US been transformed concurrently with the US's recent participation in international environmental treaties? This question addresses both the history of coal and energy development in the US as well as the nation's historical position at the UNFCCC and participation in previous COP agreements.

The theoretical framework of this thesis draws from and synthesizes theories of the environmental state and world society to explain the relationship that exists between individual nation-states and the broader global context in which they are situated. This provides a lens for understanding how global environmental agreements have the potential to influence the US's domestic regulations. In addition, environmental state literature highlights the importance of considering the substantive and symbolic intensions underlying regulatory action, or whether or not the benefits of a policy substantially benefit the environment or are rather a means for maintaining legitimacy. While a regulation can have both substantive and symbolic affects, the importance lies in the degree of substantive change compared to the symbolic significance of a policy.

In order to more clearly explain the relationship between international agreements and US domestic policy, regime theory will be utilized. Regime theory will be applied to both the global environmental discourse and the role of coal in the US. This helps trace the suggested regulatory and developmental trend in the UN's environmental agreements, termed as the global environmental regulatory regime, and how recent environmental regulations under the

Obama Administration align with each other. Also when applied to coal, regime theory helps separate historical periods and the most prominent role that the resource played in US society during those times.

The concept of “collaboration games” contributes to the overall theoretical framework of this thesis by helping to develop a context for state leadership in the UN COPs. Parks and Roberts describe collaboration games as the distortion of collective action by an individual nation-state in order to preserve legitimacy and prevent self-interested preferences from being revealed to other states involved in the negotiations (2008: 636). This concept synthesizes the symbolic importance of domestic regulations with the global legitimacy of a nation-state in order to explain the potential for a state to extend its sovereignty under a global environmental regulatory regime. As McKibben described, a united front is needed to address climate change, but this does not necessarily mean that all nations have an equal voice in international negotiations. Legitimacy in the UNFCCC also leads to a leadership role in climate change negotiations, and subsequently, a stronger influence on the global environmental regulatory regime.

This thesis consists of five chapters. Following this introductory chapter, the second chapter explains regime theory in more detail and applies it to a historical timeline of coal ranging from the 19<sup>th</sup> to the 20<sup>th</sup> century. The historical context of each century highlights very different roles for coal. The 19<sup>th</sup> century marks an Imperial Coal Regime. During this time, coal was used primarily for economic industrialization, the development of infrastructure and locomotive transportation networks, and the expansion of the US territorial and trade empire. In the 20<sup>th</sup> century, the role of the resource transitioned as the US energy infrastructure

developed with the implementation of coal-burning electricity plants, and the role of coal transitioned to an Energy Security Coal Regime. Coal production and consumption grew rapidly in the US as the domestic supply of the resource was self-sufficient. Periods of energy insecurity, such as during the Organization of Arab Petroleum Exporting Countries (OAPEC) embargo of the 1970s, pushed the US to rely on the domestic wealth of coal to overcome threats to the country's energy supply.

Before discussing a third coal regime emerging in the 21<sup>st</sup> century, the Diplomatic Coal Regime, the third chapter introduces theories of the environmental state and world society to develop the global context in which recent federal environmental regulations are situated. Environmental state theories describe the role of the nation-state in addressing environmental concerns. A world society aligns with contemporary globalization theories by outlining the interconnectedness between nations and the resulting supranational institutions and agreements within which individual nation-states must act. In addition to reviewing these theories, this chapter describes the US's participation in international negotiations and the major international agreements that emerge from them, such as the UNFCCC Treaty of 1992, the Kyoto Protocol, and the Copenhagen Accord. At the national level, domestic regulations, such as the Clean Air Acts and recent Clean Power Plan, are also discussed in order to set the foundation for the fourth chapter's analysis.

Chapter 4 brings together the theories from the third chapter and those of regime theory in the second chapter in order to describe the third transition of coal's role in the US, to the Diplomatic Coal Regime. This chapter discusses the increased alignment of recent domestic environmental regulatory policies with the global environmental regulatory regime, specifically

the importance of sustainable energy development that involves curbing carbon emissions. Introducing the concept of collaboration games highlights the relationship between the symbolic significance of the domestic policies and US legitimacy in the global environmental arena by identifying how constraints on US coal can potentially put the US in a position of leadership and influence, and thus extend national sovereignty, in future international environmental negotiations.

The fifth and concluding chapter of this thesis ties the subsequent chapters together in order to explain the theoretical implications of this research. As the problems caused by climate change continue to intensify and increasingly affect the Global North, the annual COPs and international agreements are likely to increase in importance and effectiveness. This chapter also discusses the limitations of this research, while also suggesting future research that can help overcome the present limitations.

This thesis compares historical coal regimes in the US in order to frame the relationship between actions taken by the executive branch of the US government and the global environmental regulatory regime established by the UNFCCC. By discussing the US's domestic regulations prior to and post its agreement to the Copenhagen Accord in 2009, the influence of international negotiations on a global power like the US becomes clear. Although the UN's climate conferences are often referred to as weak, this weakness is primarily identified as the lack of enforcement mechanisms that directly influence nation-state. This research aims to fill this gap by explaining the potential for international agreements and a global discourse for

sustainable development that indirectly influences national security through constraints on domestic energy development and, consequently, encouraging domestic regulations that align with the global discourse.

## CHAPTER 2: HISTORY AND BACKGROUND OF US COAL AND GLOBAL ENVIRONMENTALISM

This chapter provides an historical analysis of the social significance of coal during particular historical moments. The social and political characteristics of coal during specific historical periods are associated with the emergence of historically significant coal regimes (Esterberg 2002: 129; Peluso 2012). In this chapter, I will discuss two coal regimes, the Imperial Coal Regime and the Energy Security Coal Regime, to show the social transformative aspects of the natural resource in relation to the US's national interests.

Coal regime concept draws from the constructivist perspective of international regime theory. The constructivist foundation for regimes holds that “(1) the environment in which agents/states take action is social as well as material; and (2) this setting can provide agents/states with understandings of their interests (it can ‘constitute’ them)” (Checkel 1998: 325-326). While regime theory varies from natural resource management to food production, applying the theory requires specification of a historical context in which state interests and relationships of power can be situated (Friedmann 2005: 228; Young 1989). A regime emerges from the arrangement of institutions and rules created by sovereign state action that results in normalized state behavior (Drezner 2009; Abbott 1999). For example, Friedmann describes the “Mercantile-Industrial Food Regime” as one in which production took a mechanical form after international development agencies encouraged a Green Revolution in the Third World (Friedmann 2005: 243). This thesis utilizes themes from international regime theory to describe historical coal regimes in the US and the emergence of a global environmental regulatory regime in future chapters.

The timeline of these coal regimes spans the 19<sup>th</sup> to the 20<sup>th</sup> century, with regime shifts occurring near the turn of the century. During these historical periods, the relational aspects of coal, or the role of the resource in society, shift with regards to the state's domestic developmental strategies. Although the use and value of coal differ in the 19<sup>th</sup> and 20<sup>th</sup> century, the common theme of national security related to development persists through time. The social context of the resource becomes transformed over time along with US infrastructure. As the domestic energy infrastructure changed over time, so did US use, production, and dependency on coal.

During these historical periods, the social and political characteristics of coal arise from the state's regulatory policies, or the lack thereof, related to the coal industry. This chapter will describe the relationship of coal to the state through analyzing political regulations related to the resource and the coal industry in order to explore how state interests in economic development were balanced with the maintenance of political legitimacy. The significance of energy security underlies the discussion of the state relationship to coal throughout history. Although considerations of energy security vary, Goldthau and Sovacool describe energy as the "lifeblood" of human society for its role in developmental strategies in the context of resource availability risks tied to global politics, fossil fuel supply, and technological infrastructure (Goldthau and Sovacool 2011: 232; Rutherford et al.: 2007; Winzer 2012; Lieb-Doczy et al. 2003; Loschel, et al. 2010; Kruyt, van Vuuren et al. 2009; Chester 2010). Essentially, US coal regulations reflect state action directed at maintaining energy security and ensuring continued development.

## **Coal and the Growth of the US Economy During the 19th Century**

The 19<sup>th</sup> century saw the elaboration of the relationship between coal and the energy security of the US. Coal played a significant role in industrialization in the US, both in transforming and growing the economy (Chandler 1972). The resource established new systems of transportation and trade through the steam-powered engine, shaping a new understanding of both domestic and global understandings of geography (Shulman 2015; Nerlove 1966). During the 19<sup>th</sup> century, the structure of economics and politics became transformed, and with the growing importance of coal powered technologies, a sense of energy demand emerged.

To develop a historical timeline of coal that includes the social context in which coal production and value are situated, I will describe the resource's role in development, expansion, and military security in the US in the 19<sup>th</sup> century. Coal's importance in the 19<sup>th</sup> century represents an Imperial Coal Regime as the US extended and maintained territories while also establishing itself as an industrialized and global power (Shulman 2015). The practical uses of coal in US society during this historical period explain the roots of energy security in a sense, specifically in the context of military driven national security and economic development.

On the path towards industrialization, the need for iron in development essentially drove the US towards dependency on coal beginning as early as the 1840s (Chandler 1972: 147; Adams 2006; Drake 2001: 131). Steam powered factory production, generated by coal, incorporated coal into the crafting of iron products in the 1830s (Chandler 1972: 148; Adams



2006: 79; Hunter 1986). Increasingly, production and development led to increasing demand for coal domestically in order to power the industrial economy and growing populations concentrated in established cities (Adams 2006: 75; Chandler 1972; Turnbull 1987).

Coal, therefore, played an important role in industrialization and furthering the transition of the US into an era of modernity. It also helped establish an American discourse on energy security as the resource came to support economic expansion and development of the transportation system during the 19<sup>th</sup> century. The steam powered engine fueled by coal allowed for an extension of the state during this time period, and the new transcontinental railroad structurally shaped a connection between the East and West of the US (Shulman 2015: 96; Hunter 1986; Chandler 1972). Coal was the primary source of energy underlying the growth of a US empire based on development of trade, railroads, and Western expansion.

Railroads allowed transportation of raw materials and finished products more speedily across the nation through railroads and the driving force of the steam engine provided a means for economic growth (Haines and Margo 2011; Fogel 1964; Nerlove 1966). The factory workplace in the US emerged during the 19<sup>th</sup> century concurrent with the expansion of the railroad infrastructure, which structured transportation networks between the emerging cities during this historic period (Atack et al. 2011; Adams 2006). While coal played a significant role in the industrial sector of the US economy, the resource also contributed to growth in the agricultural sector.

Establishing railroads allowed the agricultural sector to transport its products greater distances, offering a broader market for the agricultural suppliers (Atack and Margo 2011).

While creating opportunities for increased productivity and profitability in the agricultural sector, the railroads also provided the provisions for urbanization within the US (Atack and Margo 2011; Atack et al. 2010). The coal-powered transportation system provided the means for food products to more easily reach distant localities, creating greater food security for cities and contributing to urbanization and population growth in cities.

During this time period, coal also helped establish strong trade connections across the globe through the use of the steam-powered engine in commercial vessels. In addition to improving and expanding global trade, US interests also involved expanding territory across water expanses in the mid- to late- 19<sup>th</sup> century. Central American territories in Panama and areas in the Caribbean attracted US interest in establishing connections between the nation's trade routes and improving coal resource availability (Shulman 2015: 96). The national focus on trade and expanding territories in order to improve the fluidity of trade across expansions of water contributes to the development of a US empire.

To protect the expanding reach of the US trade routes, the US required coal to maintain a strong naval military presence. Not only did coal act as a primary resource required for constructing the iron vessels themselves, but it also powered naval steam vessels (Chandler 1972; Shulman 2015). These naval vessels supported national security and provided protection for US trade routes that crossed international waters. The opening markets and trade routes that connected the US to the Asia, Africa, and South America fueled the emerging US empire and the need for improved naval presence to protect the expanding empire (Shuman 2015).

From the 1840s through the 1850s, US territorial expansion peaked, giving rise to a sense of insecurity and a need to improve the military capabilities of the state (Shulman 2015: 27). During the 1840s, the House Committee on Naval Affairs called for federal investment in war steamships in order to counter the British dominance over the Atlantic Ocean (Shulman 2015: 26). Political support from the 1840s onward through the 1850s provided funding for maintenance and growth of commercial and mail steamship routes (Shulman 2015: 27-28).

The 19<sup>th</sup> century Imperial Coal regime utilized coal for economic development tied to the US's interest in expanding its territory and trade routes. During this period, the federal government took action to fund its expansive interests by increasing the US's demand for coal. Steam-powered machinery stimulated industrial production and trade while the country's naval vessels helped secure the growing US Empire.

### **Growth of Domestic Coal Production During the 20<sup>th</sup> Century**

Coal's role became transformed in the 20<sup>th</sup> century as technological developments transitioned the US into a period of electric energy. Coal-fired power plants provide the electrical energy required for continuing infrastructural and economic progress. In 1882, Thomas Edison established the first electric generating station in the US powered by coal-fired boilers, and from this moment, coal became the primary electric energy source in the US for the next seventy years (Weeks 2007: 828). Electrical power supported industrial development, technological innovation, and quality of life for US citizens as its uses expanded from the economic sphere to the residential sphere of American society (Hughes 1993; Nye 1992). The

increasing use of coal in various social spheres contributed to an even greater demand for the resource than what existed during the 19<sup>th</sup> century.

In order to fulfill the growing demand for coal, the US expanded its domestic production. During the 19<sup>th</sup> century, the government had recognized the rich deposits of coal in US territory, but domestic production was fairly low compared to what it would become in the 20<sup>th</sup> century. Consumption was satisfied by coal from Central and South America (Shulman 2015: 10). The continued growth of an electrically powered infrastructure demanded even more coal in order to sustain developmental growth, which led to advancements and expansion of the domestic production of coal.

Below, I will discuss changes and development of domestic coal production through a comparative discussion of the Appalachian and Powder River Basin (PRB) cases. The 20<sup>th</sup> century saw the beginnings of federal regulation of coal production related to safety, wage concerns, and mining unions, eventually moving towards environmental regulation as the US environmentalist movement arose in the 1960s (Long 1989; Drake 2001; Salstrom 1994). The US coal regime during this period transitioned from the Imperial Coal Regime towards an Energy Security Coal Regime which focused specifically on combatting foreign energy dependency in the face of energy crisis (Weeks 2007: 827).

In the 20<sup>th</sup> century, energy security concern emerges from increasing energy demands within the US and the fear of energy dependency. In addition to coal's importance to the electrical energy infrastructure of the US, increased imports of other energy resources,

primarily foreign oil, also drives the importance of coal for national security and energy security in the US (Brathwaite 2010; Vallentin 2008; Moroney 2008).

### *Coal Production and the Appalachian Case*

Coal production in the Appalachian region of the US has its roots in the 18th century and truly established a significant role in the US economy during the 1800s (Dunway 1996; Hunter 1986; Salstrom 1994). The Appalachian region from 1812-1861 assumed a greater role in coal production in the US as coal was exported to regional markets in order support industries and emerging city areas, and by the 1890s, the coal supply became more fully incorporated into the US infrastructure railroads connected the US territories (Dunway 1966: 166 & 179; Drake 2001: 133). This relationship between Appalachia and the railroad infrastructure in the US developed along with the coal-powered electrical stations mentioned previously in this chapter, shaping an electricity market (Weeks 2007: 828; Hughes 1993).

The important role of coal in development during the 19<sup>th</sup> century sparked the attention of entrepreneurs and investors interested in mineral rights in the area, leading to the expansion of coal production in Appalachia during the 20<sup>th</sup> century (Bell and York 2010: 118; Buckley 2004). Drake summarizes the importance of coal during the turn of the century stating, “The triumph of modern capitalism was apparent by the 19<sup>th</sup> century. The Appalachian region fit into corporate America’s plans mainly as a producer of fossil fuels” (2001: 117). Recognizing the increasing demand for coal, external investment into the region would drive the coal industry into the 20<sup>th</sup> century.

Investors benefited from investing in Appalachian coal production because labor was cheap in the region. The availability of inexpensive labor was supported by the willingness of the Appalachian people to accept the low wages offered by the coal industry (Salstrom 1994: 73). Following the typical model of capitalist production rooted in Marx, low wages contribute to increased profits at the expense, or exploitation, of the labor force (Marx 1992). Labor regulation was weak during the early 1900s, allowing for low wages for hard labor, contributing to the ability of the coal industry in Appalachia to produce and export coal at low and competitive prices (Salstrom 1994: 93; Dunway 1996). This competitive pricing for coal from Appalachia drove the expansion of the industry throughout the region with significant growth in a short period of time.

The federal government began regulating coal production during the early 20<sup>th</sup> century in response to unionization and emerging labor rights concerns. The population “boom” in Eastern Kentucky correlates with the rate of production tripling in 1900 compared to 1880 and continuing significant growth through the 1930s (Drake 2001: 146). This growth expands across the region and came with increasing employment in the coal industry. In 1900, the coalfields in West Virginia were in full production, and a year after, the Tennessee Coal and Iron Company was incorporated as the US Steel Corporation, “[...] the nation’s first billion-dollar corporation” (Drake 2001: 134 & 141). Contestation between the miners working for low-wages in dangerous environments and the operators soon developed and required federal intervention.

Environmental concern was not a priority of the US government during the early 1900s, but emerging labor unions, like the United Mine Workers of America established in 1890, pressured the federal government to regulate mining in response to safety and wage concerns

(Drake 2001: 202). In 1910, the United States Bureau of Mines gathered and released data of dangers that existed in the coal industry, bringing to light labor concerns and the inability of the federal government to act upon the emerging labor issue (Long 1989: 313-314). Increasing tensions in the industry resulted in the Industrial Relations Commission of 1912, which signified the legitimacy of the federal government regulating labor (Long 1989: 314).

The relationship between a large workforce and low wages resulted in high rates of production for the coal industry but also increased conflict in the industry itself. Maintaining and increasing high levels of production was relevant not only to the coal industry but was also a concern of domestic energy demands (Buckley 2004: 159). President Roosevelt's New Deal and the National Recovery Administration of 1933 policies supported increases for workers' wages to maintain production and prevent conflict in the industry, ultimately avoiding extraction and supply risks (Salstrom 1994: 73). The support offered to laborer wages was not without its limits and ultimately had negative consequences for the mining labor force.

The Appalachian region lagged behind coal extraction practices in other areas of the US as technological innovations were being developed and utilized in other US mining regions. The region required a large workforce in order to maintain high-production levels to meet growing US demands for coal because it lacked technological development (Buckley 2004; Salstrom 1994). To respond to the federal regulatory attempts in 1933, the Appalachian coal industry began to mechanize coal extraction (Salstrom 1994: 73). The response of the industry to maximize the mechanization of the extraction process resulted in reduction in the size of the labor force to retain high profits while keeping up with continually increasing demand for coal (Salstrom 1994: 75; Drake 2001; Weeks 2007: 828).

The next major boom in Appalachian coal production occurred during the 1940s as the US entered a period of wartime. President Roosevelt nationalized US coal mines in an attempt to maintain production during the period of economic stimulation related to World War II (Weeks 2007: 827; Drake 2001: 197). This put federal pressure on the industry to maintain supplies during this wartime period, but simultaneously, the labor force of the industry became increasingly vocal in its disapproval of the lack of concern for miner safety (Drake 2001: 201). In order to maintain production, the Love-Lewis Agreement of the 1950s was made between the Bituminous Coal Operators Association and the United Mine Workers of America (Drake 2001: 201). While this agreement allowed the industry to maintain production at the cost of increased wages and health benefits for miners, the miners themselves were once again affected by technological innovations in the industry.

The sting of this wave of technological advances in the coal industry would be felt decades after the Love-Lewis Agreement. The United Mine Workers of America did not oppose the introduction of new mining technologies, resulting in, once again, new technologies replacing human labor with the result of lower rates of employment (Drake 2001: 201-202). Technology continued to increase production to meet US demand through the 1990s (Drake 2001: 202). As the nation became increasingly reliant on coal driven energy throughout the 20<sup>th</sup> century, the communities of Appalachia developed a cultural and economic dependence on the resource vulnerable to the broader domestic transitions of the national coal industry.

Natural resource dependent areas (NRDAs) include areas in which extraction of a natural resource develops a relationship of dependency between the community and extracted resource, shaping social and economic vulnerabilities related to broader developmental



processes (Krannich and Luloff 1991; Peluso and Fortmann 1994; Humphrey et al. 1993; Freudenburg and Gramling 1998). A regional history of extraction in Appalachia developed cultural and economic vulnerabilities in relation to developing social capital, employment, poverty, and contributed to a sense of identity in Appalachian communities (Bell 2009; Bell and York 2010). Recognizing the dependency of these communities and the connection to the broader context of transitions in coal production related to federal policy brings to light the role of the US state in addressing energy security concerns.

The rise of an environmental movement in the US beginning in the 1960s drastically changed the state of coal production in the US. The growing significance of environmentalism and the emergence of the Environmental Protection Agency (EPA) in 1970 and environmental laws have had the greatest impact on the region (Bell and York 2010: 122; EPA.gov). Public concern for the environment drove the most significant restructuring of the coal industry during the latter part of the 20<sup>th</sup> century.

The impact of public environmental organizations applied pressure to the federal government to include environmental considerations. With little change in the national demand for coal, the federal government enforced environmental regulations during the 1970s that allowed for the continued production of coal within a different geographical context (Bell and York 2010: 122; Weeks 2007: 827). The Clean Air Act of the 1970s shaped regulation of the coal industry to have a higher regard for the sulfur content of burned coal in an attempt to lower sulfur dioxide emissions (Bell and York 2010: 122; Weeks 2007: 827). Appalachian coal contains a high content of sulfur in respect to the lower sulfur levels found in Western coal

mined in the PRB, leading to declines in Appalachian production in favor of coal extraction in the PRB (Ahmed et al. 2014).

This transition resulted in greater hardships for the Appalachian mining communities. The rich supply of coal in the US is enough to remain self-sufficient in its production, avoiding the supply risks to energy security (Moroney 2008; Winzer 2012). To retain legitimacy in response to the growing environmental movement in the US, regulatory policy was transformed from a focus on labor and health to one on the environment.

#### *The Move West: Coal Production and the Powder River Basin*

Although American records of coal development in the West date back to the 19<sup>th</sup> century, Western domination in domestic coal production developed in the latter half of the 20<sup>th</sup> century (Gardner and Flores 1989: 3; Ahmed et al. 2014: 88). Environmental regulation beginning in the 1970s led to increased coal production in the West. During this time, tensions emerged between the federal government and the increasing demand for coal for electrical energy production, while simultaneously attempting to address increasingly relevant environmental concerns.

The rising concern for the environment led to the federal government establishing the EPA, “[b]orn in the wake of elevated concern about environmental pollution” and subsequent environmental regulations affecting coal throughout the 1970s, but the importance of coal for electrical energy conflicted with the state’s attempts towards environmental reforms (Gardner and Flores 1989: 191; EPA). Coal provided energy for the US “[f]rom 1949 to 2014, [with] electricity produced from coal averag[ing] 50.7 percent of total US net generation” (Godby et

al. 2015: 68). The US's rich coal deposits allowed for domestic production to meet the need of domestic consumption without requiring foreign coal imports (Moroney 2008). The US's self-sufficiency for half of its energy demand from the electrical industry made environmental regulatory action that may restrict coal production a risk to the nation's energy security.

The emergence of federal environmental regulatory policies in the 1970s shaped the basis for emission regulations in the US, but increasing reliance on foreign oil as a primary fossil fuel and the energy crisis in the 1970s reflected the inadequacy of those policies (Weeks 2007: 827). In response to increasing tensions imposed by environmentalists throughout the 1960s, the Clean Air Act of 1970 established air quality standards, mandating the reduction of sulfur dioxide emissions from coal-fired plants. This Act's response to environmental concern about pollution lead to an initial decline in Appalachian coal production and an increase in Wyoming production in the PRB because of the lower sulfur content in the latter area's deposits (Gardner and Flores 1989: 191; Weeks 2007: 827; Bell and York 2010: 122). The Clean Air Act ultimately lacked effectiveness because of energy concerns tied to the conflict over oil in the 1970s; the role of coal in establishing energy security therefore persisted throughout the 20<sup>th</sup> century.

With oil being the primary fossil fuel in the US during the latter half of the 1900s, risk associated with political instability and the availability of supply during the 1970s threatened energy security and essentially drove continued reliance on coal. After the Clean Air Act of 1970 imposed sulfur emission restrictions resulting in production reductions in Appalachia, the global energy market drastically shifted due to the oil shocks of the 1970s, specifically beginning with the Organization of Arab Petroleum Exporting Countries (OAPEC) embargo (Weeks 2007: 827; Gardner and Flores 1989: 194; Jones and Strahan 1985; Hamilton 1983).

Although the Clean Air Act of 1970 stirred production in the West, the 1970s Energy Crisis increased oil prices and risks to energy security in the US, leading to another boom in Appalachian coal production regardless of the regulatory “limitations” in order to compensate for the lower supply of oil available (Hamilton 1983; Gardner and Flores 1989: 195; Bell and York 2010: 122).

The connection of the energy crisis to environmental regulation during this period established the Energy Security Coal Regime as the resource fulfilled the role of supporting US energy production, which was the primary aim of the federal government during this time. Having great wealth in the supply of coal supported the domestic energy industry, regardless of an emerging global energy crisis. The Clean Air Act of 1970 directly affected coal production in the US, but the energy crisis of oil that persisted throughout the 1970s threatened energy security and led to fulfilling energy demand coming before federal environmental concerns (Bell and York 2010: 122; Gardner and Flores 1989).

Although the Clean Air Act of 1970 did not introduce drastic changes in the production of coal, it set the foundation for the future amendment of the Clean Air Act to occur in 1990. In response to continued domestic and congressional pressures for stronger environmental regulations, the Clean Air Act of 1990 reinforced regulation of sulfur dioxide emissions from coal-burning plants through market-based trading of sulfur allowances and subsequent increasing demand for coal from the West (Busse and Keohane 2007; Hausker 1992; Popp 2003; Betz et al. 2015; Henry et al. 2011; Gerking and Hamilton 2008; EPA.org). Concern regarding acid rain drove the implementation of the 1990 amendment in order to suppress the emerging

conflict, but the reliance on coal for energy security led to alternative means of production in order to maintain the electrical infrastructure of the US (Weeks 2007: 830).

The resulting emergence of a market for low-sulfur coal after the Clean Air Act of 1990 continued the push towards expanding coal development in the West. Appalachia produces primarily bituminous coal containing high-content levels of sulfur, but the coal extracted in the PRB is sub-bituminous with sulfur content within the restrictive range imposed by the 1990 amendment (Weeks 2007: 830; Busse and Keohane 2007). The difference in thermal energy produced from burning bituminous and sub-bituminous coal highlights limitations of the Clean Air Act of 1990.

The energy yielded from the newly demanded coal fell short in comparison to the Appalachian bituminous coal, requiring the pace of production to increase in the West. The carbon content of specific types of coal acts as a measurement for yielded heat/energy released from burning, with the West's sub-bituminous coal's carbon content being 35-45% and Appalachia's bituminous coal's carbon content being 45-86%, resulting in one-third less BTUs from coal supplied from the West (EIA.gov; Gardner and Flores 1989: 193). In order to retain energy levels yielded from the burning of coal, production of the resource greatly increased in the West in order to ensure a reliable supply of sub-bituminous coal.

An additional benefit of the Western transition includes the economic advantage provided by extracting coal from the PRB compared to Appalachian coal during this historical period. After the Clean Air Act was amended in 1990, production of coal in the PRB boomed to double the rate throughout the last decade of the century while the number of energy stations

burning the sub-bituminous coal tripled (Gerking and Hamilton 2008: 933). While the regulatory amendment greatly influenced this rapid growth in the PRB and substantial decreases in production in Eastern sources of high-sulfur content coal, the pricing involved in transportation networks, extraction, and the demanding power plants also drove the Western transition (Gerking and Hamilton 2008). The Clean Air Act of 1990 implemented restrictions on sulfur dioxide emissions, creating high demand from the electrical energy industry for the low-sulfur sub-bituminous coal.

The increased national consumption of sub-bituminous coal brought economic wealth to the mining states in the American West. Severance taxes on the Western land provided significant increases since the initial coal production boom after the 1970s version of the Clean Air Act was implemented and continuing to increase after the boom from the 1990 amendment (Gardner and Flores 1989: 201; Godby et al. 2015). Similar to the impacts that the coal industry had in Appalachia, the Western development of coal production stimulated the economy in states such as Wyoming, influencing the infrastructure in these areas.

The production of coal in the West has greatly affected the citizens in the region through the opening job market tied to the industry as well as revenue gained and applied to states' infrastructure. As stated in the Bureau of Land Management's website, "Nearly one in six Wyoming workers are directly or indirectly employed in coal development," including miners, power plants, transportation, and various other job opportunities related to the production of coal (BLM.gov). This ties the coal industry to the livelihood of individual citizens (Godby et al. 2015: 20). The coal industry also contributes greatly to the state infrastructure as revenue from the severance tax on coal extraction provides funding for major state institutions, such as the

education and governmental systems in Wyoming (Godby et al. 2015: 22). While literature does not apparently address concerns of community identity related to coal in the Wyoming region as studies have been done in the Appalachian region, the state as well as the other Western states that currently contribute to most of the production of coal in the US have grown to rely on coal in similar ways as Appalachia and other extractive economies (Krannich and Luloff 1991; Peluso and Fortmann 1994; Humphrey et al. 1993; Freudenburg and Gramling 1998).

Table 1. Key Aspects of the Appalachian and Powder River Basin Cases

Appalachia	Powder River Basin
Demand for coal increased with railroads and electricity plants.	Clean Air Act of 1990 limits sulfur emissions from burning coal.
New Deal and National Recovery Administration of 1933 provide labor benefits AP	PRB deposits hold sub-bituminous coal with low sulfur content.
Love-Lewis Agreement of the 1950s supports miner benefits.	Sub-bituminous coal yields lower rates of thermal energy, doubling production in PRB.
Mechanization of the coal industry in response to labor rights and miner benefits.	After 1990, sub-bituminous energy burning stations tripled.
Regional Economic dependency on coal extraction	Severance tax from coal extraction grows since 1970s and supports Wyoming's infrastructure.
EPA's Clean Air Act of 1970 resulted in declines in Appalachian production.	Nearly one in six Wyoming workers are directly or indirectly employed in coal development.

As discussed above, coal was historically been sourced from the Eastern Appalachian region of the country and contributed to the development of these areas, but the transition to Western coal led to a decline in production in Appalachia, causing economic concerns related to unemployment and poverty in the region. Table 1 summarizes key aspects of the Appalachian and Powder River Basin cases. The transition to Western energy allowed coal to retain its significance as an energy resource in the US, despite environmental regulations, but it came

with a cost to the Appalachian communities had grown dependent on the industry. Poverty in the region has been a historical problem related to exploitation by the coal industry, making transitions to new industries difficult even with the declining economic support of the coal industry since the 1990s (Bell 2009: 633; Billings and Blee 2000).

As federal regulations that influence coal have had a significant impact on the previous primary producers of coal in Appalachia, the state economies of the Western producers experienced similar vulnerabilities as history moved forward. Wyoming coal was undeniably tied to energy security in the US, considering that “[t]he electricity used by one out of every five homes and businesses in the US is produced from coal mined in Wyoming” (BLM). While this is the current way in which electricity is provided, politics and economics are transformative social processes with the potential to significantly alter the future of Wyoming coal production and the role of coal itself.

During the 20<sup>th</sup> century, federal regulations influencing coal transitioned from labor and safety related concerns to environmentally focused regulatory policies emerging from the federal environmental institution of the EPA. Within the 1900s, the politics surrounding coal production became transformed while the resource’s importance to US infrastructure and energy security remained fairly similar to the 19<sup>th</sup> century, although the particular ways in which the resource is utilized differed. The transition from an Imperial Coal Regime to an Energy Security Coal Regime becomes apparent when comparing US growth and territorial expansion attempts during the 19<sup>th</sup> century to the change to an oil dominated fossil fuel economy and the support that coal provided to energy security in the US during the periods of energy crisis in the 1970s. Regardless of the energy changes of the 20<sup>th</sup> century, coal



maintained significance as an inexpensive resource capable of yielding high levels of energy that the US could completely self-sufficiently produce (Moroney 2008).

The aim of this chapter has been to tie together the historical relationship of the US to coal with transitioning regimes of coal as they relate to the concept of energy security. Beginning with a discussion of the 19<sup>th</sup> century, coal emerged as a resource irreplaceable within the scope of the development of a US empire. In the 20<sup>th</sup> century, the US constructed an electrical powered infrastructure, transitioned to an oil based economy, and began to implement limiting regulations on the coal industry from labor and safety to environmental regulation in the 1970s. During this historical period, the role of coal transitioned to being the major support for energy security, providing half of the energy required for the production of electrical energy in the US and acting as a resource that could be utilized during periods of energy crisis due to the great wealth of coal within the US.

## CHAPTER 3: ADDRESSING CLIMATE CHANGE IN THE 21<sup>ST</sup> CENTURY

This chapter builds a foundation for applying the regime theory used in Chapter 2 to the contemporary place of coal in US society. As a deep connection between US infrastructure and coal related to state development developed historically, this chapter aims to better contextualize the modern historical situation of the state. This involves a discussion of global trends regarding sustainable development and US's approach to environmental regulations vis-à-vis growing global concern for climate change.

The beginning of this chapter involves a discussion of the modern nation-state in relation to the environment. Drawing from environmental state and world society literature, this chapter develops a perspective of the modern nation-state situated within an international community. The chapter continues with an empirical discussion of global environmental conferences and the US's approach to climate change after the turn of the century. While the second chapter only introduced major events, this chapter aims to discuss the conferences more comprehensively and in relation to US participation in the negotiations, also taking into consideration the transition in the US's approach to climate change from President George W. Bush's administration to Barack Obama's administration after 2008.

### **Globalization and Growing Concern for the Environment**

Discussing globalization in more detail provides a framework in which to situate the nation-state as transnational institutions and organizations emerge as arenas in which a multiplicity of states participate and interact (Bartley 2007). Developing this framework

includes considering globalization itself and the emergent role of the US as a superpower in political and economic relations. For the scope of this project, the conceptualization of globalization focuses primarily on political characteristics of globalization.

The progression of globalization in the 20<sup>th</sup> century involves transparency of state boundaries as trade and political processes cross borders more fluidly and nation-states become increasingly interconnected. Technological advancements in both transportation and communication provide a means for the proliferation of global connections and consistency in international bonds (Castells 1996; Harvey 1989). The growing interconnectedness amongst nation states deconstruct previous boundaries as global communication networks support economic sustainability and produce global markets that establish an enveloping global economic structure (Berndt and Boeckler 2009; Robertson 2011; Henderson et al. 2002). State participation in the global network includes participation in established global institutions in which members collaborate and compromise, developing a global political arena, in order to maintain stability as domestic social spheres continually merge with shared global spheres of politics, economics, and, increasingly, the environment (Steger 2009; Held and McGrew 2008; Harvey 1989).

Although transnational institutions act as global regulators in a globalized world, the state maintains autonomy in its domestic regulations and exercises influence within the global institutions in which it participates. Globalization does not lead to the irrelevancy of the state but instead creates a new area in which the state struggles for influence and regulatory power (Sassen 1999; Weiss 1998). During the development of a globalized world, the US played a

significant role as an economic and military superpower and established itself as a global authority in the 20<sup>th</sup> century.

A short case discussion of US involvement with the World Bank and International Monetary Fund and its role as arbiter of economic regulation in Latin America during the latter half of the 1900s. The US holds a seat of authority in these two global institutions, which allowed for the construction and implementation of Structural Adjustment Programs (SAPs) (Babb and Chorey 2009; Goldman 2005; Peet 2003; Klein 2007; Richards 1997). These plans called for “forced” regulation in order to “help” the struggling economies of states in Latin America, headed by the US and its held authority in the global institutions (Klein 2007; Richards 1997). While the SAPs may have been normalized as being helpful, in reality they had destructive consequences for most of the economies participating in Latin America, imposed greater restriction on the Latin American states’ autonomy, and led to opening up the economies of these states to foreign direct investment, primarily from US sources, which benefited the US’s domestic economy (Klein 2007; Richards 1997).

The former discussion of the Latin American case makes a point to the consideration of the significance of the state in globalization and also the influence of the US in transnational institutions. While multinational corporations play a significant part in shaping international and domestic regimes, the scope of this thesis focuses primarily on the interaction between the federal executive branch in the US and a specific transnational institution on the environment, the United Nations Framework Convention on Climate Change. Understanding both the importance of the state and the typical role of the US in global regulatory processes develops a

context for moving forward into a discussion theories of the environmental state and world society.

### **The Modern Nation-State and the Environment**

Synthesizing environmental state and world society theories provides a theoretical grounding for the contemporary relationship between the modern nation-state and the environment while also considering the effects of globalization on state power. This provides a framework for analyzing the relationship between international climate conferences and US environmental regulatory responses within a broader context of the role of the nation-state in global politics.

The conception of the modern nation-state involves consideration of the evolving global network of influential actors involved in contemporary modes of governance. As mentioned previously in the section about globalization, physical and political boundaries no longer hold as great of a significance as modern communicative networks driven by information communication technologies (ICT) instantaneously relay information, messages, and discourse. The concept of “flows” involves the transference of information through ICT mediums, contributing to the formation of multilevel subnational and supranational networks of governance (Castells 1996; Mol 2006). Mol draws from this to establish the concept of information governance, which he describes as a “new informational mode of environmental governance [...] in which environmental information gains transformative powers” (2006: 497).

The nation-state historically holds authority within the arena of environmental governance although contestation exists amongst various actors. As discussed in the historical

chapter, the US move to maintain sovereignty within the early emergence of global environmental governance through refraining from institutionalizing global treaties presents power of the US state within its geographical boundaries. Within these boundaries, subnational environmental organizations' and civil society's push for environmental consideration and regulatory reformation by the government during the 1960s and 1970s suggests an early network of informational environmental governance as the intensifying concern and rhetoric for the environment pushed the federal government to include the environment more prominently in its regulatory agenda (Meadowcroft 2007).

This attributes a significant influential power to environmental activism and movements within the US, especially in the 1960s and 1970s. Buttel outlined four basic mechanisms of environmental reform (the following not being in order of importance): 1) environmental activism, 2) state environmental regulation, 3) ecological modernization, and 4) international environmental governance (2003: 306). The authoritative role of the nation-state relates to the environmental state as it is situated within an international system of environmental governance, considering the power of the state to engage in the "rationalization of society" and "[...] because their laws, policies and expenditures have influenced the way societies interact with their natural surroundings" (Buttel 2003: 318; Meadowcroft 2007: 11). While subnational environmental movements historically influence the regulatory responses of the US government, the codification and enforcement of environmental policy and the resulting changes ultimately depend on state action. Environmental reformation depends on the state's arrangement of social concerns in which it can intervene and manage, including modern state

spheres of security, the economy, welfare, and more recently the environment (Buttel 2003; Meadowcroft 2007).

### *The Environmental State*

Scholarly literature positions theories of the environmental state with an emphasis on environmental improvements grounded in state action rather than the degradation of the environment (Buttel 2003; Catton and Dunlap 1978; Goldblatt 1996; Martell 1994; Murphy 1994). The environmental crisis invoked by the theory of the treadmill of production contributed to the early emphasis of environmental sociology to focus on degradation as it is tied to consumerism and production in a postindustrial society (Schnaiburg 1980). Buttel suggests a drastic turn in environmental theory positioned towards environmental improvement tied to analyses focused on the environmental success stories of policies implemented by other countries (2003).

The broad scope of theory regarding environmental improvement brings to light questions regarding how improvements may be made and who the primary actors of improvement are. Recognized as a regulatory entity, environmental state literature incorporates the state as a primary actor connecting society to the natural environment. The literature emphasizes the emergence of the environment as a responsibility of the modern nation-state as degradation and climate concerns cross territorial boundaries and have global effects (Fisher and Freudenburg 2004; Buttel 2000, 2003; Meadowcroft 2007; Goldman 2001; Konefal and Mascarenhas 2005; Bulkeley and Mol 2003; Frank et al. 2000).

While the literature agrees upon the responsibility of the modern nation-state to regulate and improve the environment, the representation of state activity varies. Fisher and Freudenburg identify three branches of environmental state literature: 1) ecological modernization, 2) postmaterialism, and 3) reflexive modernization (2004: 160-161). These branches share the commonality of weaving the economic responsibility of the state with the environmental responsibility. Buttel claims that “[...] as the state’s responsibility for environmental protection grows, it becomes inevitable that its activities will involve conflict and contradictory responsibilities” and identifies the contradiction between living standards and welfare tied to production and consumption and the associated degradation of the environment (2003: 321).

Ecological modernization presents an optimistic approach to the role of the state in environmental improvement through its emphasis on an eventual positive correlation between technological and economic efficiency and the environment (Fisher and Freudenburg 2004). Theorists within this branch encourage the state’s ability to control the environment through improving scientific understanding and technological efficiency to mitigate and even reverse commonly associated detrimental effects on the environment (Mol and Spaargaren 1993; Christoff 1996; Cohen 2000; Fisher and Freudenburg 2001; Hajer 1995). While improving technological efficiencies offers the potential for environmental improvements, the implementation of new technologies depends on the capacity for individual states to adapt. This limits the effectiveness of such changes in relation to developmental disparities that exist between individual nation-states.



The postmaterial thesis differs from ecological modernization in its emphasis on the cultural aspects of society rather than the more tangible technological developments. Postmaterial values emerge from a nation-state's economic security with wealth and prosperity allowing for a country's citizens to value quality of life as it relates to the environment rather than physical needs (Brechin and Kempton 1994; Inglehart 1990). The economic sacrifices required for protection of the environment then become culturally accepted with the environmental state being responsible for implementing regulatory constraints on the modes of production that cause damage to the environment (Fisher and Freudenburg 2004; Inglehart 1990; Brechin and Kempton 1994; Abramson 1997; Dunlap and Mertig 1997; Pierce 1997). This positions postmaterialism within a state-centric approach to environmental improvement similar to that of ecological modernization. The economic flexibility required to improve the environment depends on the individual state's wealth associated with emergent environmental cultural values. Brechin and Kempton clarify that environmental values do not necessarily require economic prosperity but rather that a developmental state's limited ability to sacrifice economic growth due to the need to provide for citizen's physical needs constrains its capacity to protect the environment (1994).

Reflexive modernization appears to represent aspects of both ecological modernization and postmaterialism in its emphasis on social changes that contribute to environmental protection. This approach describes a "new modernity" in which actors from civil society value the environment over production and influence the state to implement structural changes to preserve the environment (Fisher and Freudenburg 2001; Beck 1995). Reflexive modernization includes cultural values concerned with protecting the environment and broad structural

transformation related to technological, economic, and infrastructural changes. While the limitations of this approach relate to the other two environmental state branches, an additional limitation associated with approach involves the influence of actors from civil society in affecting state action.

The three branches of environmental state theory identified by Fisher and Freudenburg use state-centric approaches to understanding the way in which the state fulfills its responsibility to protect the environment. Despite the limitations of these state-centric approaches, the important commonality regarding the contradiction between economic and environmental responsibilities of the state poses questions regarding the underlying reason for an environmental state action. The role of the environmental state involves action directed towards environmental sustainability, but literature questions the substance of state action and whether the actions are symbolic acts of legitimation (Fisher and Freudenburg 2004; Block 1987; Habermas 1970; O'Connor 1973). Symbolic versus substantive action represents the intersection between the economy and environmental protection as it relates to Buttel's claim of increasing conflict between state responsibilities (2003).

The question of symbolic versus substantive action is relevant to analyzing recent regulatory actions aimed at the coal industry by the US federal government because distinguishing between the two reveals a broader context for particular actions. The Clean Air Act of 1990 provides an example of how symbolism may cover the substantial effects following regulation. Although this regulatory action does show substantive qualities because it set limits on emissions and invoked a response from the coal industry, the Clean Air Act also possesses symbolic characteristics that aligned with state interest in maintaining legitimacy in the face of

public concern for the environment. Under Energy Security Coal Regime, regulatory action did need to be identifiable as an environmental effort by the state, but the Clean Air Act also allowed for coal production to continue and increase in the PRB to maintain energy security and the domestic supply of coal. Essentially, the Clean Air Act of 1990 appeared as progressive environmental regulation, but the result only relocated coal extraction and continued harm to the environment.

Environmental state literature describes the emerging environmental responsibility of the modern nation-state and the increasing conflict that exists between economic security and environmental protection, but the state-centric branches of this perspective seemingly ignore globalization and the importance of international environmental governance. Nation-state decision making does not occur in isolation, but rather decision making exists as a relational process amongst the states of the world. World society theory contributes to better understanding the relationship between state environmental regulation and international environmental governance.

### *The World Society and Eco-Governmentality*

The world society perspective takes into consideration forces outside of nation-state boundaries as being significant to structuring state power. Overall, this approach conceptualizes the modern nation-state as embedded within a global system, or an interconnected network society (Frank et al. 2000; Mol 2006; Castells 1996). World society theory considers the web of international and intergovernmental organizations that emerge in response to the global issues of climate change and environmental degradation. A critique of

the world society involves its lack of consideration regarding the domestic processes involved in environmental protection, but my analysis synthesizes the world society with the concept of the environmental state to consider domestic factors and outcomes involved in global environmentalism (Buttel 2000).

The emergence of an interconnected global community capable of collaborating and compromising in response to global concerns marks the foundation for the world society. Frank et al. describe the growing environmental responsibility of nation-states as related to international bonds and the rise of global environmental organizations, such as the formation of the United Nations (UN) in 1945 and 1972 UN Environment Programme at the Stockholm Conference (2000; Frank 1997; Haas 1995; Meyer et al. 1997). The world society perspective considers the limiting effects of globalization and the increasing interconnectedness amongst nation-states on state power and autonomy. Treaties, agreements, and IGOs shape the nation-state in the world society, acting as “[...] rule-like definitions establishing what the nation-state is, what it can do, and how it can relate to other entities [...]” (Frank et al. 2000: 100; Robertson 1992; Ruggie 1993).

The world society represents a decline in state power and autonomy on the global scale, but the state still maintains its domestic authority in shaping and enforcing environmental regulation. Literature suggests a shift from government to governance in the global arena as other actors participate in the governance network with significance yielded to supranational IGOs (Goldman 2001; Mol 2006; Bulkeley and Mol 2003; Konefal and Mascarenhas 2005). State memberships in environmental IGOs grows after the UN Stockholm Conference in 1972 (Frank et al. 2000). 1972 also marks a period of growth in state responsibility for the environment

marked by the increasing rate of national environmental ministries since their inception in 1971; environmental ministries represent the environmental regulatory institution in nation-states at the highest governmental level (Frank et al. 2000). These representations of state activities related to the environment shape a general frame for explaining the intersection between global environmentalism and state environmental responsibility.

Consideration of the modern nation-state as embedded within a world society renders a focus on environmental issues at the level of a global discourse. At the global level, discourse emerges from a structure of governance related to legitimation supported by the use of scientization to establish truth claims (Frank et al. 2000; Mol 2006; Goldman 2001). Goldman conceptualizes truth making as the establishment of global regulatory regimes (2001). As it relates to a global environmental regulatory regime, eco-governmentality represents the arena for the contestation amongst nation-states in making truth claims regarding the relationship between society and the environment (Goldman 2001).

Similar to the role of the Northern leadership in the International Monetary Fund and World Bank and resulting neoliberal economic restructuring of countries in the global South, environmental regulatory regimes and their associated discourse emerge from IGOs and international conferences with identifiable national leaders. Goldman's study focused on the shaping of the environmental states in the global South by a colonial environmental discourse exercised by the World Bank (2001). The leadership position of Northern states provides power in the form of legitimating information and science to make truth claims regarding the environment similar to the way in which the global institution reinforced economic claims leading to neoliberal economic restructuring of the South (Mol 2006; Goldman 2001). This

reveals the significant theoretical component of discourse in the world society and the associated importance of the intersection between international environmental governance and the environmental state.

### *The Environmental State in a World Society*

My purpose requires a theoretical lens that accounts for the development of both an environmental state and a global environmental regulatory regime in order to analyze the US' recent implementation of regulatory policies surrounding coal. The world society perspective yields important consideration of supranational forces, such as IGOs, that play an influential role in shaping global environmental regulatory regimes in which modern nation-states are embedded. Theories of the environmental state provide a conceptualization of the state that allows for a closer analysis of specific environmental protection outcomes, the Clean Power Plan and federal moratorium on the leasing of federal lands for coal production in my case (Buttel 2000).

When applied to the historical coal regimes from Chapter 2, the rise of the US as an environmental state takes place during the 20<sup>th</sup> century Energy Security Coal Regime. Although the Imperial Coal Regime does situate the state within a world society, considering US interests of competition between the US and Great Britain and global security for trade routes, the environment did not hold any significance in the federal regulations that were more so focused on domestic labor concerns. The regulation of coal during the Energy Security Coal Regime depended upon the global energy supply. During this time, the US needed to balance legitimacy in the face of the environmentalist movement while also securing its energy supply

in a time of oil scarcity. The US took on the role of an environmental state by enforcing environmental regulations, although as explained earlier, the Clean Air Act only appeared to be environmentally driven and actually restructured and increased coal production in the American West.

The analysis of this project involves an understanding of the global leadership position of the US in relation to the state's legitimacy in influencing the global environmental discourse. Being a leader in international climate conferences allows for a state to position itself as a legitimate maker of truth regarding the environment. Since the 1960s, the rate of international environmental treaty agreements annual foundings has continued to rise; these treaties act as the constraining codification of truth related to state interaction with the environment, making a state's role in shaping global regulation a matter of state power (Frank et al. 2000).

### **Global Climate Conferences and an Environmental Regulatory Regime**

Before delving into an analysis of recent environmental regulations implemented in the US, more needs to be explained about international environmental conferences. The United Nations Framework Convention on Climate Change (UNFCCC) conferences significantly contribute to the emergence of a global environmental regulatory regime because they host discussions of climate science, technological development, and energy amongst nation-state leaders in order to shape a global response to climate change through international agreements. Agreements made during these UN climate conferences set goals and developmental plans for addressing climate change, but the conferences themselves constitute

a contested arena increasingly relevant to understanding both international leadership and national sovereignty in an expanding global system.

The first World Climate Conference took place in 1979, but since then, scientific improvements and global consensus regarding climate change as an increasingly relevant problem led the global community taking the problem of climate change more seriously. The UNFCCC treaty of 1992 marked the beginning of annual Conferences of the Parties (COPs) in which governmental elites are bound by a provision to attend (Dimitrov 2010; Gould and Lewis 2009; UNFCCC). COPs provide an arena for contention amongst governmental elites as they work towards framing a general international approach to energy development and emission goals in order to generate a compromise regarding how individual nations will play its own role in addressing climate change.

This section discusses the growing importance of global climate conferences in shaping an environmental regulatory regime. This discussion helps in understanding the give-and-take that occurs between an individual nation-state and the UNFCCC, specifically related to the development of an international discourse on climate change that results in a global environmental regulatory regime. By providing a more in-depth discussion of global concern for climate change and greenhouse gas (GHG) emissions, clearer connections between domestic regulatory changes in the US and global environmental regulatory regime can be made.



### *Global Climate Conferences and State Leadership*

The UNFCCC sets a stage for global leaders to set an agenda for addressing climate change. By gathering governmental elites from nations across the globe, these conferences provide a space for discussion regarding topics related to climate change, such as science and technology. A discourse emerges from the discussions at the international conference as certain scientific standards become established for understanding climate change's causes, effects, and solutions. Relating to the previous section's idea regarding the role of international treaties and agreements in regulating state action, similar a "blueprint" for state decision-making, global climate conferences create a plan for addressing climate change with the expectation that nation-states will function within the constraints of the agreement or treaty (Frank et al. 2000: 100; Robertson 1992; Ruggie 1993).

The influence of UNFCCC meetings on nation-state behavior remains questionable, considering that the agreements are not legally binding and lack consequences if a state does not follow through, but this inefficiency of the meetings does not account for plausible indirect effects on nation-states (Haas 2002). The indirect effects of the UN conferences involves the legitimization of scientific discoveries that frame the way in which countries understand and discuss climate change. An international discussion of climate change contributes to a shift from domestic government to global environmental governance as the generation of information considered legitimate sets the global agenda and shapes global standards for framing climate issues and constructing appropriate state responses to these issues (Haas 2002). The UNFCCC does not directly influence state policy in the sense of providing mandatory policy and regulatory commitments by nation-states, but rather these conferences provide

legitimacy to the climate discussion through a global consensus regarding the way in which climate change is understood and discussed.

While the structure of the UNFCCC allows for an open conversation about addressing climate change at the global scale, the role of individual nation-states in the discussion does not scale evenly across the globe. Developed regions of the world emerge as leaders at the conferences to direct the conversation, yielding greater influence in shaping the global discourse and resulting framework for state behavior regarding the issue of climate change (Groen et al. 2012; Dimitrov 2010; Kelemen and Vogel 2010). Conceptualizing leadership in this project involves two primary features identified in international leadership literature: 1) direction and 2) goal-attainment (Groen et al. 2012: 175; Gupta and Grubb 2000; Skodvin and Andersen 2006; Schirm 2010). Direction relates to the ability of an actor to gain followers in the pursuit of a collective purpose, or to steer the discussion while goal-attainment pertains to a state's ability to influence and shape the purpose of the group (Groen et al. 2012: 175). In summary, an international leader at the UNFCCC drives the conversation towards a goal conducive to its own state interests.

The capacity to direct the global environmental discourse towards a state's interests affects a nation-state's sovereignty in the sense of the indirect effect that a global environmental regulatory regime has on individual nation-state's environmental regulations. The UNFCCC upholds legitimacy as a global institution due to the broad representation offered to all nations willing to participate in the meetings, allowing for typically recognized small powers and mid-level powers to engage in the global discussion (Haas 2002: 77). Inclusive participation in the global decision-making leads to international compromise and a willingness

of a state to uphold its agreed upon terms, but emergent leaders in the conferences still hold the role of directing the discourse and resulting agreements.

The following section discusses the historical achievements made in the UNFCCC beginning with the Kyoto Protocol of 1997 to the Copenhagen Accord and the role of the US in the global discussion. These achievements include the major agreements amongst nation-states and the general trend of the global discourse concerning climate change. Understanding the broader global context of the climate discussion and international leadership within the conferences will help frame my discussion of the US's recent environmental regulatory decisions and the idea of the modern nation-state as being an actor embedded within a World Society.

#### *From Kyoto to Copenhagen: US Leadership in the UNFCCC*

Since the 1992 UNFCCC agreement, annual COPs gather the largest collection of government leaders across the globe to discuss an international approach to addressing climate change. The continued discussion of climate change and scientific and technological advancements shape the global discourse regarding the environment as the focus of the meetings transitions over time. The direction of the conversation at the COPs and engagement in the discussion by particular actors, such as the European Union (EU) and the US, presents changes in global environmental leadership as the power dynamics seem to have shifted since the early conferences.

After 1992, the next major COP meeting took place in 1997 in Kyoto, Japan. At this conference, participating members agreed upon the Kyoto Protocol treaty, which built on the

1992 UNFCCC agreement (Gould and Lewis 2009; McCright and Dunlap 2003). The Kyoto Protocol would come into force in 2005 and expire in 2012, and the agreement set target emission reductions for industrialized countries (Dimitrov 2010: 799). Although the US signed the treaty in 1997, the Kyoto Protocol never became ratified by the federal government due to reservations regarding the effect that the emission standards would have on the US economy as well as its exemption of developing countries (Dimitrov 2010; Bang et al. 2007; Kazgan 2001; Redclift and Sage 1998; Roberts and Parks 2007; Gould and Lewis 2009). The US Senate passed Resolution 98 which represented the US stance on international environmental agreements and stated that the Senate would not ratify a treaty that did not include developing countries in the imposition of greenhouse gas (GHG) reductions and that threatened the US economy (McCright and Dunlap 2003: 349). This retraction by the US was not well received by the international community and in addition to lax domestic regulations over the years, the US position as an environmental leader began to decline.

While the US pursued its own agenda for mitigation that focused on preliminary research rather than political regulatory commitments, European states expanded their environmental policies to directly address the internationally agreed upon problem of GHG emissions (Byrne et al. 2007; Harris 2009). Scholarly literature describes these differing approaches as being influential in transitions of international environmental leadership as the EU began to surpass the US in the global arena after the 1990s (Harris 2009; Kelemen and Vogel 2010; Vogel 2003; Vig and Faure 2004; Groen et al. 2012; Zito 2005; Dimitrov 2010; Schlosberg and Dryzek 2002; Jahn 1998). The economy historically persists as the US's priority in foreign policy, resulting in the nation's resistance towards international environmental agreements

(Bang et al. 2007; Harris 2009). This environmental stance by the US leads to diminishing legitimacy in the global conferences and a laggard image of the nation with respect to addressing an increasingly significant global issue.

After the Kyoto Protocol, the next major environmental agreement did not occur until 2009 during the COP in Copenhagen. The Copenhagen Conference historically marked the largest international meeting with about 10.5 thousand government delegates (Dimitrov 2010: 795). This setting allowed for opinions and concerns to be offered by various nations, both industrialized and developing countries, but global leaders on climate policy such as the Western countries of the EU held in high regard by the global community due to their robust domestic environmental policies were able to offer important contributions to the crafting of the Copenhagen Accord (Dimitrov 2010). Not all Western countries held such high esteem during this conference, particularly the US whose lack of environmental legislation put its governmental leaders in a weak negotiating position. Aside from this, the focus of the Copenhagen Conference was to renegotiate and update the Kyoto Protocol, which was due to expire in 2012, but since the US had never ratified the agreement and “unsigned” the treaty, the nation could not directly participate in the renegotiation (Dimitrov 2010).

The limitations of previous environmental decisions by the US brought to light the diminishing leadership of the country within the context of the UNFCCC. Growing global pressures and the lack of influence that the US held eventually led to the US signing onto global collaboration in addressing climate change with the Copenhagen Accord. The US wanted an inclusive single treaty under which developing and industrialized countries would fall, but the country’s weak negotiating position led to a differing emission standards set for developing and

industrialized countries (Dimitrov 2010). This compromise brought the US into the global environmental community in the sense of the country now agreeing to work with other nations by limiting its emissions in concurrence with the international agreement, something that the Bush administration resisted since the early 2000s (McCright and Dunlap 2003; Byrne et al. 2007).

The importance of reducing GHG emissions on the global scale and the joining of the US in this agreed upon mission after years of resistance becomes more complex when considering the trend of the environmental discourse at the COPs since the Kyoto Protocol in 1997. Researchers Najam and Cleveland conducted a study focused on the evolving agenda of these global conferences since 1997. Their findings included an “intensification of sustainable development,” which intersects with nation-states’ energy infrastructures (Najam and Cleveland 2003). In 2005, just four years prior to the Copenhagen Conference, the US consumed about a quarter of world energy with 25% of that energy coming from coal (Moroney 2008: 23-24). Considering that carbon dioxide emissions currently account for 75% of global GHG emissions and coal emits twice as much carbon dioxide per Btu than cleaner sources of energy such as natural gas, the direction of the global discourse towards sustainable development that cuts carbon emissions apparently contradicts the US stance for addressing climate change (Moroney 2008: 43; EPA).

In 2001, President Bush claimed that the federal government would not set standards for limiting the carbon dioxide produced by US power plants in order to retain stability in the energy sector and economy (McCright and Dunlap 2003: 349). The global conversation and discourse appeared to be in opposition to the US’s stance as global standards for carbon

emissions constrained nations that ratified the Kyoto Protocol (Najam and Cleveland 2003). Although Kyoto and Copenhagen mark significant events of major international agreements and a global responsibility to curb carbon emissions, both agreements are generally deemed weak in the sense of not holding participating actors accountable (Haas 2002). An important aspect of these agreements is the underlying science that supports and directs the conversation and consequential solutions.

At the COP conferences between these important international agreements, part of the conference agenda remains dedicated to research and a scientific discussion of global findings (UNFCCC). A global scientific consensus scales the field of discussion regarding climate change itself and its causes as research is presented and legitimated by the global scientific community. The topic of addressing climate change and setting an agenda presents an arena of contestation in which state power, influence, and position as a global leader becomes influential in shaping the discourse. With the direction of the discourse intensifying around the subject of sustainable development and clean forms of energy production with low carbon emissions, a global environmental regulatory regime emerges with standards for clean energy infrastructures with low carbon emissions. This “blueprint” for an energy infrastructure constrains state decision making within the context of energy development (Frank et al. 2000: 100).

### **The US Approach to Climate Change in the 21<sup>st</sup> Century**

The US’s approach to addressing climate change in concurrence with presidential administrations in the 21<sup>st</sup> century. At the turn of the 21<sup>st</sup> century, the US held a firm stance

against cutting emissions and placing restrictions on the energy sector, but this stance began to change with the new democratic administration in 2008 and the following regulatory actions taken by the federal government. Outlining the regulatory approaches of the US during the 21<sup>st</sup> century will provide more context for Chapter 4, which will expand on the coal regime theory from Chapter 2 as it relates to the US as an environmental state actor.

#### *US Climate Stance Under the Bush Administration*

As mentioned in the earlier section of this chapter, the US decline as an international environmental leader became more apparent during the 1990s, and this trend only intensified in the first decade of the 2000s (Keleman and Vogel 2010). The significant role of civil society and the emerging environmental movement in the 1970s marked the peak of US environmentalism and regulatory changes at the federal level as discussed in Chapter 2, but the “strides” made during this time appeared great in comparison to a history of the US lacking environmental regulation (Schlosberg and Dryzek 2002: 790). Regardless of how great or lackluster the advancements may have been during this time, the importance lies in the influence that the environmental movement had in the decision-making process.

With the environmental movement in the US having a history of influence, the state of the movement during the period of environmental decline in the US should briefly be discussed. Since the 1970s, the US environmental movement continued to expand and cover a broad variety of issues including climate, wildlife, forestry, preservation, globalization, etc. (Brulle 2009). The growth of various environmental organizations that differ in their focus as well as varying approaches to interacting with the federal government changed the



environmental movement as a whole and has been described as diminishing the movement's pressure on federal politics (Schlosberg and Dryzek 2002; Kelemen and Vogel 2010). Kelemen and Vogel describe domestic political pressure as being influential in promoting environmental and international action, but during the 2000s, the environmental movement's political influence diminished although the movement itself grew drastically since the 70s (2010: 448).

The change in structure of the environmental movement alone may contribute to the lax approach of the federal government in addressing environmental concerns, but other factors such as the climate skepticism and denial movement also play a significant part. Since the 1990s, part of the conservative movement framed the national discourse on global warming as a non-issue (McCright and Dunlap 2003). This movement, described as a "disinformation" campaign, consists of various industrial and fossil fuel actors working in coalition with conservative groups and media and using contrarian science to deny anthropogenic global warming (AGW) (Dunlap 2013: 692; Dunlap and McCright 2011). The disinformation campaign combats the scientific consensus on AGW in an attempt to form climate skepticism in the public sphere (Dunlap 2013; Bryne et al. 2007). This skepticism spreads to the political sphere as politicians and policy makers secure their positions by acting in accordance to constituents' beliefs (Oreskes 2004; Dunlap 2013).

The discord that exists in the political sphere regarding climate change shapes the federal stance on climate change and the consequential environmental regulatory action. The Bush administration actively supported the uncertainty of climate change while enacting a new energy plan in support of fossil fuel sources of energy, specifically the coal industry (Bryne et al. 2007). In 2005 and 2006, the federal government reduced funding for the National Oceanic

and Atmospheric Administration and restricted NASA scientists from making public statements regarding climate change in order to constrain climate science and research and limit supportive evidence viewable to the public (Bryne et al. 2007: 4558; Lawler 2004; Mervis 2005). Bush followed through with a pledge made to invest in the coal industry with Bush's 2005 Energy Plan, which provided \$356 million for coal research that included the Clean Coal Power Initiative (Bryne et al. 2007: 4556).

The national and political disagreement about AGW and the US's reliance on fossil fuels resulted in an Energy Plan that fit national interests rather than global concerns regarding climate change. With the lobbying of the fossil fuel industry as well as industry representatives sitting in leadership positions in the Bush administration, the federal stance on climate change focuses on preserving the economy and national sovereignty rather than international cooperation (McCright and Dunlap 2003; Bryne et al. 2007; Newell 2000; Levy and Egan 1998). The Bush administration believed that any international treaty requiring participants to lower emissions would harm the national economy and constrain state sovereignty and therefore opposed the Kyoto Protocol (McCright and Dunlap 2003; Bryne 2007: 4456). This led the US to an isolated approach to addressing climate concerns that focused on energy changes that worked for national energy interests, primarily maintaining coal and other fossil fuel sources of energy.

As discussed in the previous section, the US lagged behind other nations in cooperating at the international level and taking regulatory action to address climate change, focusing on preliminary research for cleaner coal technologies. The Bush administration showed little concern for actually regulating emissions with the only substantial action taken being by the

Supreme Court in 2007. This action being “substantial” in the context of US environmental regulations finally considering GHGs as air pollutants under the Clean Air Act, 17 years after the last amendment to the act (Reitze 2012: 10606). The focus on research for new coal technologies funded by the Department of Energy through Bush’s Energy Plan does not match the intensifying global concern regarding climate change, considering the preliminary stages of the research and high cost for shifting the energy sector to utilize the new technology (Reitze 2012; Pollin 2014). Although carbon capture and sequestration research proposes drastic decreases in carbon emissions from coal-burning power plants, the timeline for shifting to this new technology in electricity generating plants does not fit the global consensus regarding the significance of addressing climate change sooner rather than later, and the energy sector does not need to change without federal regulations enforcing stricter emission standards (Boretti 2013; Rohlf and Madlener 2013).

### *Changing the Nation’s Approach to Climate Change*

Under the Obama administration, the US became more involved in the international politics of climate change, also moving towards stricter regulations of GHG emissions and consequently restrictions on the coal industry. In this section of the chapter, I will discuss the recent Climate Action Plan crafted under the Obama administration in 2013, the Clean Power Plan of 2015, and restructuring the management of the federal coal program. The Climate Action Plan, Clean Power Plan, and restructuring of the management of the federal coal program reflect a commitment to the international effort to address climate change. The timeline of US regulations in the 21<sup>st</sup> century reflects the intensification of global conferences

and discourse discussed in the previous section as the new strides made by the Obama administration occur after the 2009 COP in Copenhagen.

The Climate Action Plan (CAP) announced in 2013 framed the overall approach that the US would take in the following years to address climate concerns. The new Plan reflects a change from the Bush Administration's stance on climate change with the nation's participation in the Copenhagen Accord and the resulting push towards cutting carbon emissions. This plan reinforces the nation's commitment to the pledge made in 2009 to reduce GHG emissions to 17% below 2005 levels by the year 2020 (White House 2013: 4). The plan contains themes addressing the real threat of climate change to health, the economy, and role that the US needs to play in leading international efforts (White House 2013). This stance obviously differs from the skeptical approach of the Bush Administration which focused on preserving national sovereignty and the state of the economy.

Essentially, the CAP builds from the 1990 Clean Air Act by adding stricter standards for carbon emissions and investing in clean energy technologies (White House 2013: 6-7). The massive rates of carbon dioxide pollution on both the global and domestic scale make carbon emissions the focus of the CAP. Carbon dioxide accounts for three quarters of global GHG emissions and 82% of US GHG emissions, presenting this particular pollutant as substantially relevant to beginning to address climate change (EPA).

In order to curb the significant amount of domestic carbon emissions, the CAP targets electricity utility plants with stricter emission standards. To meet these new standards, CAP proposes that utility companies convert to cleaner coal-burning technologies, such as carbon

capture and sequestration (Pollin 2014). As previously mentioned, these clean coal technologies still require further research and carry a heavy economic cost for utility companies to convert, making the transition difficult for the energy sector. Regardless of this difficulty, scientific analyses appear pessimistic about the capability of coal-burning power plants to meet the stricter standards set by the CAP even if they convert to cleaner technology (Hampf and Rodseth 2015; Kotchen and Mansur 2014).

Further stress on the coal-powering industry of the energy sector came in 2015 with President Obama and the EPA announcing the Clean Power Plan (CPP). While the CAP proposed emission standards in concurrence with what the US agreed to in Copenhagen, the CPP builds on this further by setting a national standard for reducing 2005 carbon dioxide emission levels 32% by 2030 (White House). The CPP claims acceptance of the global scientific consensus on climate change and also states that it will “[...] change the international dynamic and leverage international action. Climate change is a global challenge and global action. When the US leads, other nations follow” proposing the significance of international collaboration and a very different approach for addressing climate change compared to the Bush Administration (EPA; White House).

The third stressor on the coal industry came in the form of a moratorium on new federal coal leases. In early 2016, the Department of the Interior implemented Order No. 3338 to allow time for restructuring the federal management of coal (DOI 2016). The order reflects on the pledge made in Copenhagen and the importance of a global reduction in carbon emissions (DOI 2016: 4). Federal coal makes up 41% of domestic coal production and 10% of total GHG emissions, which includes carbon dioxide and other air pollutants (DOI 2016: 4).

Although these three federally directed regulatory plans support Obama's assured environmental concern, they also threaten the nation's coal industry and consequently the people living in coal-producing regions (Hamp and Rodseth 2015; Pollin 2014). This section of the chapter focuses on presenting the recent regulatory actions made at the federal level in order to create a frame for comparison between the Bush and Obama Administrations' approaches. The next chapter analyzes these regulatory moves within the global context outlined in the previous section that discussed the UNFCCC and COPs through the synthesis of the environmental state perspective and global environmental regulatory regime to describe a new coal regime in the 21<sup>st</sup> century.

## CHAPTER 4: A CONTEMPORARY COAL REGIME IN THE US

The power dynamics of the United Nations Framework Convention on Climate Change (UNFCCC) with regards to diplomacy, leadership, and the emergence of the global environmental regulatory regime (GERR) situate the nation-state within a world society. Particular state actors carry greater influence by establishing leadership through domestic action taken to address climate change. The GERR defines appropriate action for addressing climate change, or the means for acquiring the legitimacy required for leadership power in climate negotiations. Within the context of the 2009 Copenhagen Accord, recent regulatory action taken by the US provides an example of the indirect relationship between international climate change conferences and the restructuring of the nation-state's key roles.

The international concern regarding carbon dioxide emissions and global climate change exists at a supranational level of environmental discourse and becomes institutionalized through COPs and subsequent international treaties. Historically, the US's lack of participation in global environmental conferences allowed the nation to act in isolation and in accordance with its own environmental interests. Consequences of the US's relaxed approach to domestic environmental regulations include weakening of the US's leadership position in the international arena and undermining of national security related to the energy sector. As the reality and severity of climate change intensifies on the global scale, however, the US's participation in international efforts takes a drastic turn from the nation's approach in the early 2000s.

While Chapter 3 provided separate outlines of significant events both at the global level of the UNFCCC and nationally in the US, this chapter draws on Chapter 3's discussion of the environmental state to analyze the intersection between these events. This discussion involves a synthesis of global leadership in the UNFCCC and how the recent regulatory changes made by the US relate to each other. This highlights important questions regarding state sovereignty as it relates to the theory of an environmental state situated in a world society. The substance of the US's regulatory action as well as its symbolic attributes as the language and purpose of the regulations reflects the global climate discussion and a new path towards international environmental leadership for the US. Building from the idea of a global environmental "blueprint," US responses to climate change align with the GERR as a result of global pressures and the real threat of climate change (Frank et al. 2000: 100).

The US's more participatory approach to global environmental efforts at the UNFCCC under the Obama Administration shifts the nation's formerly isolated approach toward managing its environmental impacts and the energy sector. As a consequence, the federal government must now consider its international commitments and reputation. Recent regulation directly affects the coal industry and use of coal for energy production but also puts the US in a stronger negotiating position in future international conferences.

### **Sovereignty and Leadership in a World Society**

The GERR emerges from international environmental conferences and represents an internationally agreed upon blueprint for state developmental strategies. World society situates the nation-state as embedded within a global context, consisting of international



institutions such as the UNFCCC. This positions sovereignty as dependent upon the global institutions outside of the state. If a nation-state influences or directs international institutions and the global discourse, then it gains the capacity for maintaining sovereignty despite international constraints.

### *The Global Environmental Regulatory Regime*

The UNFCCC exists as a supranational institution in which actors, particularly nation-states, organize in order to negotiate both a global understanding of climate change and the environment and an international method for addressing environmental issues. A global environmental regulatory regime (GERR) consists of a synthesis of the international understanding of the environment and the way in which nation states act in accordance with this understanding. In the 2000s, scientific consensus supports the international discourse on climate change and develops a regime for sustainable development.

The overall trend of the discourse since 1997 pushes towards ideas regarding sustainable development (Najam and Cleveland 2003). While the research of Najam and Cleveland only describes an emergent and increasing significance of sustainable development in the early 2000s, the trend continued with the Copenhagen Accord in 2009. Before discussing the Copenhagen Accord, the Kyoto Protocol needs to be discussed in greater detail.

Although the Kyoto Protocol does provide initial sustainable development consideration, the conceptualization of sustainable development appears vague with action directed towards research. The language used appears suggestive rather than instructive as “Article 2” focuses on “promot[ing] sustainable development” through action such as the

“Encouragement of appropriate reforms in relevant sectors aimed at promoting policies and measures which limit or reduce emissions of greenhouse gases [...]” (Kyoto 1998: 1-2). The protocol focuses more on management suggestions rather than structural change and developmental suggestions. Addressing emission reductions consists of suggesting emission limitations on sectors such as transportation, waste management, and the energy sector while promoting sustainable change in the agriculture sector (Kyoto 1998). The distinction between limitations and transitioning a sector of the economy towards a sustainable mode of production depend on the demographics of society, considering the correlation between population and energy consumption. The global trend of limiting emissions to eventually decrease energy consumption as populations continue to increase suggests an unrealistic approach to addressing climate change.

The Kyoto Protocol has shortcomings with regard to its emission limitations being suggestive rather than enforced, but it provided an initial international collaborative effort and resulted in an emergent discourse for addressing climate concerns. The Protocol frames sustainable development as an international goal for the future. Overall, the Protocol’s approach promotes preparation for future sustainable development with the changes relying on shared scientific and technological research (Kyoto 1998: 9-10).

The Copenhagen Accord continues the sustainable development trend from the Kyoto Protocol as it engages with scientific research in its approach to addressing climate change. Science on climate change directs the way in which the problem is understood and should be approached, generally through curbing emissions. While emission standards updates the Accord provided to the Kyoto Protocol, should be recognized as important and influential, they

remain within the scope of the conceptualization of sustainable development in this international agreement. In other words, emission standards of the Accord reflect the meaning of sustainable development.

Both the Kyoto Protocol and Copenhagen Accord attempt to replicate the “ultimate objective” of the original UNFCCC of 1992 and aim to mitigate the human effects on the world’s climate system (Kyoto 1998; Copenhagen 2009; UNFCCC 1992). The approach of the Copenhagen Accord differs with regard to the mitigation efforts being situated within sustainable development:

To achieve the ultimate objective of the Convention to stabilize greenhouse gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, we shall, recognizing the scientific view that the increase in global temperature should be below 2 degrees Celsius, on the basis of equity and in the context of sustainable development, enhance our long-term cooperative action to combat climate change (Copenhagen 2009: 5).

This draws connections between the scientific support for anthropogenic climate change and the need for international cooperation in addressing this human issue. Tied to cooperation, sustainable development situates the “context” in which international actions for addressing climate take shape. Sustainable development in the Accord retains practicality in its push for the implementation of mitigation efforts with cooperation focused on shared developmental strategies (Copenhagen 2009). The Accord states, “In order to enhance action on development and transfer of technology we decide to establish a Technology Mechanism to accelerate

technology development and transfer in support of action on adaptation and mitigation [...]” (Copenhagen 2009: 7). This involves transparency regarding the actions being taken by individual nation-states in order to promote international cooperation.

The transparency of state mitigation efforts and shared technological knowledge provides a field for scientific inquiry and judgement regarding the effectiveness of actions taken. This results in a ‘correct’ method of development and infrastructure for nation-states, as the developed nations take the role of setting standards and influencing developing nation’s development strategies to promote inclusiveness in global environmental efforts (Copenhagen 2009). The former method of limitation alone does not effectively mitigate anthropogenic effects on global climate, but sustainable development in the Copenhagen Accord applies emission standards to development plans in order to restructure high emission sectors through technological changes as well as implementing domestic policies (Copenhagen 2009).

The intensification of sustainable development in the UNFCCC identified by Najam and Cleveland (2003) persists throughout the early 2000s as the Copenhagen Accord’s content stands within the concept’s context. Supported by science, sustainable development creates a framework for state development. The emergent discourse describes a way of developing within the constraints of emission standards, and through its codification into an international agreement, the discourse shapes the GERR. Drawing from Friedmann’s discussion of food regimes, the relationships of the GERR consist of nation-states in the UNFCCC that compete (Friedmann 2005). The transparency of state management of the environment and the sharing of knowledge for actions approved as sustainable provides the arena in which the discourse emerges. Regimes transition from historical periods, and the current GERR emphasizes

developmental transformations in high emission-output sectors as the appropriate action for accomplishing the primary objective of the UNFCCC, mitigating GHG emissions to prevent harmful anthropogenic effects on global climate.

#### *What the Global Environmental Regulatory Regime Means for Sovereignty*

The previous section described the GERR and its emergence from the UNFCCC discourse on sustainable development, but the GERR's effect on state sovereignty requires further explanation. Considering the relationship between sovereignty and globalization, some of the previous literature describes sovereignty specifically as it relates to exchange (Spruyt 1994; Strang 1991; Thompson 1994). The core of the discussion related to transactions with the state apparatus being at the center playing the role of the facilitator. In this project, the conceptualization of sovereignty retains aspects of exchange while broadening the scope to a more networked approach found in organization theory and open systems. Ansell and Weber describe the distinction through a discussion of boundaries, in which actors "[...] are continuous with their environments by virtue of the constant and necessary interchange of resources with their surroundings" (1999). The difference between the actor and the environment derives from the interaction, such as the exchange that occurs between two states differs from the way that a state interacts with the environment. The distinction between the two relationships lies in actor interests as a state has interests and the environment does not, but regardless both types of actors influence the emergent discourse. Undoubtedly, a discourse grounded in climate science depends on what actually occurs in the environment.

From this understanding of sovereignty, the interactions between the environment and nation-states with their interests construct the network of actors that shape the GERR which then becomes institutionalized through the crafting of international treaties and agreements, such as the Copenhagen Accord. The GERR as an institution holds legitimacy in its existence as an agreement for addressing environmental issues grounded in science and agreed upon by the international actors. Institutionalizing the GERR at the UNFCCC places the regime at a supranational level, binding the institution to the world society in which the nation-state operates under.

Reflecting on the theory outlined in Chapter 3, the World Society operates at a level above the nation-state with the state operating as an actor embedded within World Society. The GERR imposes the regulatory blueprint for sustainable development. As has been said, the international treaties signed at the UNCCC do not necessarily bind states in the direct sense, but the real issues occurring in the environment that contribute to the institutionalized form of the modern GERR create a historical period in which nation-states must attempt to comply with the environmental diagnosis and consequential treatment.

While the discussion thus far exposes an apparent constraint on nation-state sovereignty vis-à-vis the GERR and the reality of the environmental situation, the role of nation-states at the COPs may offer an alternative way for state sovereignty to be strengthened. The composition of the UNFCCC provides an arena in which particular nation-state interactions shape the global environmental discourse. This allows for state interests to be imposed on the discourse and consequently directly influence the GERR, but this power depends upon the nation-state's position as a leader.

## *Leadership and the Global Environmental Regulatory Regime*

When considering the type of global interconnectedness that exists today, the concept of leadership has concurrently transitioned from obvious expressions of power through military might to more subtle expressions found in the political and economic spheres of the global society. I do not mean to imply that military power is irrelevant in the contemporary world nor that politics and economics have not been significant factors in the transpiring of history. Being considered a leader does not require a massive military or arsenal to extend its influence over state boundaries but rather a large stake in and compelling discourse regarding international affairs. The expression of power in the international arena derives largely from diplomatic capacities of a nation-state, rather than visceral action.

Although the emphasis of this section is specifically on international cooperative efforts to address climate change, the broader context of state collaboration sets the global 'stage' for alternative ways for nation-states to act out leadership roles. Climate change represents a threat to the entire globe through its impacts on agriculture and food production networks, public health, global and domestic economies, and overall human ecology (Dunlap and Brulle 2015). In addition, the scientific consensus identifies human society in its entirety as consisting of the direct sources that contribute most to climate change: deforestation, urbanization, industrialization, etc. (Rosa et al. 2015). The characteristics of climate change as a problem differ from any historical issue considering that it is rooted in identifiable human causes, its effects penetrate multiple aspects of social life, and addressing the issue requires global participation.

Climate negotiations lay the foundation for global cooperation and creates a space for national leaders to gather and discuss an international approach for addressing climate change. While historic military power and economic success contributes to the emergence of contemporary world powers, power relationships and leadership roles emerge from diplomatic capacities within international environmental forums. Although not absolutely divorced from forces outside of the environmental arena, the format for establishing consensus in the COPs at mitigates the influence of global inequality through international inclusiveness in the decision-making process. Examples include the inclusion of Annex I and non-Annex I states into the Compliance Committee of the UNFCCC (UNFCCC). This committee consists of a balance between voting parties from developed and developing countries in its facilitative and enforcement branches (UNFCCC). A double majority voting mechanism requires that two separate majorities—Annex I and non-Annex I—approve of enforcement decisions (Parks and Roberts 2008: 642; UNFCCC). The importance of this mechanism lies in scaling the playing field so that developing countries are treated as equal partners in planning international agreements to address climate change. (Parks and Roberts 2008: 642).

The structural aspect of the UNFCCC attempts to balance the disparities that exist between the developing and developed countries, but its actual effect suggests that international environmental conferences represent a different type of power. Under the Kyoto Protocol, the Compliance Committee formed and yielded voting power to developing countries without the requirement for these countries to adopt emission reduction commitments (Parks and Roberts 2008: 642). As discussed in the former chapter, the US consequently revoked its commitments to the Kyoto Protocol for its lack of restrictions imposed on developing countries,



so here exists an example of one of the greatest world powers seemingly not getting its way. This example does lose some significance considering that the US denied the Kyoto Protocol after the matter, agreeing at first and only to be shut down subsequently by a Senate vote. The 2009 COP in Copenhagen represents a stronger example, considering that it marks an agreement that the US participated in and attempted to maintain its commitment.

Providing funds for adaptation strategies for developing nations occurs throughout various COPs, but the circumstances during the Copenhagen conference makes an interesting case within the context of global leadership, specifically in the US. The COP in 2009 represents a period of time in which the US makes a move in the international collaborative efforts for addressing climate change. As previously discussed, the US did not have its typical international influence as it does in supranational financial institutions, and consequently still agreed to the Copenhagen Accord. Although the US Senate unsigned the Kyoto Protocol because of its “unfair[ness],” supporting the Byrd-Hagel Resolution and its requirement that a treat must also limit poorer nations if the US is to commit, the US accepted the Copenhagen agreement (Parks and Roberts: 622). The Copenhagen Accord committed the US to providing funding and transparency to assist with mitigation, adaptation, and technological innovation in developing countries (Copenhagen 2009: 6). Another part of the international agreement required some sort of mitigation requirements for non-Annex I countries, mainly massive industrial emitters like China and India, while the lesser developed nations could voluntarily take action with global support (Copenhagen 2009: 6). This example suggests the challenge of cooperation as state interests vary, especially when considering global inequality and mitigating capacities of individual states but also shows that just because a massive power like the US joins the

negotiations, the country does not necessarily hold a leadership role in the negotiations, compared to the firm stance and results of the developing countries.

Seemingly contradicting the isolationist approach of self-regulating and non-participation in international climate negotiations throughout the 2000s, the US engaged in an international agreement in 2009 and decided to compromise. Although not being considered a leader in the agreement, the action still positions the US as concerted with the global effort to address climate change and mitigate carbon emissions. With the fluidity of power dynamics in the emergence of discourse, this action could be considered as a move by the US to gain ground as a nation willing to participate in the international effort through the compromise required with diplomacy, or in other words, be tied to national interests. Parks and Roberts conceptualize this sort of action as “collaboration games,” stating that “[...] it is in every state’s self-interest to disguise their preferences and misrepresent their level of contribution to the collective good” (2008: 636). The motivations underlying compromising actions could be related more so to creating a foundation of legitimacy in the global effort that can be built up to a position of leadership in future negotiations.

As I discussed in the previous chapter, leadership roles in global climate conferences requires domestic commitments. These commitments must align with the international consensus established in the global conferences, or the GERR, to establish legitimacy and show effort being made to effectively address climate change. The GERR not only constrains developmental strategies of nation-states through its current approach of addressing climate change through cutting carbon emissions, but it also sets a framework for establishing power in the international environmental conferences. The US lacked the legitimate grounding

necessary for yielding its influence into the decision-making process of the Copenhagen COP because the nation lacked any 'substantive' environmental regulatory action since the 1990s. In the next section of this chapter, I will discuss US environmentalism post-2009, in order to support the conception that the GERR and international environmental conferences have indirectly influenced US domestic environmental regulations.

### **The US Coal Regime under the Current Global Environmental Regulatory Regime**

The US's Clean Power Plan and the moratorium on the leasing of federal land for coal production shows the connection between the GERR and domestic environmental regulatory policy. The language used in the domestic policies align with the language used to frame the GERR. Comparing these recent policies to the US approach to addressing climate change prior to agreeing to the Copenhagen Accord, I will discuss the indirect effect of international climate negotiations on environmental regulatory capacities of the nation-state.

Taking into consideration the discussion of US coal regimes from Chapter 2, this section discusses a restructuring of the regime and role of coal in the extension of state sovereignty. In the analysis of the recent policies related to coal, I will synthesize the concept of collaboration games with the division between substantive and symbolic action by the state referenced in Chapter 3 in order to evaluate regulations within the context of the GERR. Although the policies may appear as drastic environmental strides, the changes are tentative rather than permanent commitments and also have impacts on the coal communities, which be potentially harmful and require socioeconomic restructuring.

## *Relating Recent US Policy to the Global Environmental Regulatory Regime*

Before the 2009 COP in Copenhagen, the federal administration transitioned from a Republican head of state to a Democratic president with the election of Obama. Building from an environmental platform, Obama directed the nation's attention to the international issue of climate change (Hampf and Rodseth 2015). Although the US's approach under the Bush administration was to fight against any international agreements that could pose detrimental effects to the US economy through cutting carbon emissions, Obama committed the US to the Copenhagen Accord, an agreement in which state participants set goals for limiting their carbon emissions. While this point has already been discussed throughout the third chapter, this section will describe the US's follow-up to its 2009 international commitment, specifically looking at the Clean Power Plan and moratorium on the leasing of federal land for coal production.

Obama and the Environmental Protection Agency announced the Clean Power Plan (CPP) in August of 2015 (EPA). In accordance to the GERR's conceptualization of sustainable development and counter to the US approach to climate change under the Bush administration, the CPP focuses on reducing domestic carbon dioxide production. The CPP adds to the Clean Air Act and regulates carbon dioxide efficiency for two types of fossil fuel-fired electric generating plants: 1) coal-fired power plants and 2) natural gas plants (EPA). New standards imposed by the CPP relate to the US's original pledge to the UNFCCC in 2009 to reduce greenhouse gas emissions by 26-28% below its 2005 levels by 2025, stating that the CPP will reduce carbon dioxide emissions by 32% from 2005 levels by 2030 (Department of the Interior 2016: 4; Whitehouse).

The scope of the CPP aligns with the conceptualization of sustainable development under the current GERR. As stated previously, the GERR emphasizes the importance of cutting carbon emissions as unavoidable in the pursuit of addressing climate change. Considering this point and the US's commitment to the UNFCCC in 2009, the transition from the US's approach to addressing climate change under the Bush administration to the stance of the Obama administration becomes clear. The indirect effect of the GERR regarding this particular policy relates to the action taken by the US towards sustainable development, specifically regulatory action aimed directly at cutting carbon emissions.

Another regulatory action taken by the federal government under the Obama administration and after the US's international commitment in 2009 includes the moratorium on the leasing of federal land for coal production. The federal government manages 41% of coal produced nationally, but the structure of federal management has not been changed since 1979 (Department of the Interior 2016). Within the context of global climate change and the contribution of coal as a driving force this change, the outdated regulation of the federal management of coal presents an anomaly for the US's pursuit of sustainable developmental standards. The moratorium presents action being taken by the federal government to improve its management of coal production in order to better align with standards set by the GERR. Order No. 3338 further attempts to align with the scientific foundation of the GERR, stating "Numerous scientific studies indicate that reducing GHG emissions from coal use worldwide is critical to addressing climate change" (Department of the Interior 2016: 4). Approval and consideration of the international consensus regarding the anthropogenic forces underlying

climate change within US regulation provides a federal stance on the reality of climate change as a domestic issue and relates to the US's willingness to cooperate at the international level.

This section focused on presenting the similarities that exist between the international discourse of the GERR and two recent environmental regulations supported by the Obama administration. Showing how these policies align with the GERR represents the indirect effect of the GERR, specifically as a constraint on state action taken to address climate change.

Although the GERR does not outline exactly what actions should be taken, the indirect effect relates to the scientific foundation of the global discourse focusing on sustainable development through cutting carbon emissions, which both US regulations aim to do. The next section of this chapter considers this regulatory alignment with the GERR as it relates to the US establishing itself as an environmental leader.

#### *US Regulatory Action and International Leadership*

The CPP and moratorium represent state action related to gaining legitimacy within the UNFCCC. A leadership position in the UNFCCC allows represents an extension of state sovereignty in international conferences for a nation-state as it relates to the importance of legitimacy in diplomatic decision-making. Leading the UNFCCC allows for legitimate influence over the global environmental discourse towards an alignment with individual nation-state interests. Both regulatory actions show effort by the US to address climate change in accordance to the global standard proposed in international treaties. Utilizing the frame for action conceptualized by collaboration games, this section aims to discuss the relationship of the CPP and moratorium to the US interest in gaining a leadership role in the UNFCCC.

The presentation of the CPP on the EPA's website contains reference directly to the importance of the plan to the position of the US as an international leader. In its description of the CPP, the EPA's website states, "[The Clean Power Plan will] change the international dynamic and leverage international action. Climate Change is a global challenge and requires global action. When the US leads, other nations follow" (EPA). This quote positions the CPP as a factor influencing the "international dynamic" of addressing climate change. The CPP serves a purpose of not only addressing the problem of carbon emissions in the US but also of supplying the US with "leverage" in international action. In combination with the closing sentence of the quote, the importance of establishing a position of leadership presents the means necessary for leading the international approach to addressing climate change.

While the EPA's summary of the CPP describes international leadership in general, the White House's statement regarding the CPP directly relates the regulation to the UNFCCC. In accordance with international aims to limit carbon emissions, the Whitehouse states, "The release of the Clean Power Plan continues momentum towards international climate talks in Paris in December, building on announcements to-date of post-2020 targets by countries representing 70% of global energy based carbon emissions" (Whitehouse). This statement includes reference to the contribution of the US as a significant carbon emitter, while also framing the CPP as an US effort to continue working towards its carbon emission commitments and, more broadly, international efforts to address climate change in the next COP.

The moratorium on the federal leasing of land for coal production also attempts to improve international legitimacy through its reference as one of "numerous measures" being taken by the US to meet the nation's emission goals committed to the UNFCCC (Department of

the Interior 2016). Order No. 3338 highlights the 10% of total US GHG emissions resulting from the burning of federally produced coal in relation to the US's agreement "[...] to the United Nations Framework Convention on Climate Change (UNFCCC) to reduce its greenhouse gas (GHG) emissions by 26-28 percent below 2005 levels by 2025" (Department of the Interior 2016). Considering that burning federal coal produces 10% of total US GHG emissions, restructuring the federal management of coal production offers the opportunity to make significant progress towards the goal of a total 26-28% total reduction.

While Chapter 3 described the EU's position as an international environmental leader through implemented regulatory action, this section of Chapter 4 positions recent regulatory action by the US as following EU's path towards legitimacy. By announcing the CPP and moratorium, the US puts itself in a position of appearing to take action towards its international climate commitments, potentially leading to an effect similar to EU's history of environmental regulation for the US. Although the moratorium has been ordered into action, the CPP remains as a potential guideline for limiting carbon emissions with the actual resulting effects on carbon emissions to still be seen.

This brings to light the relevance of collaborative games in the international arena as the US prepares itself for a future position as an international leader without yet cutting its emissions. Looking back at the history of the US as an environmental leader during the 1980s, the Clean Air Act provided an apparently drastic stride in the direction of environmentalism, compared to the lack of any significant environmental regulation previous to it. In a similar way, the CPP supports US leadership, considering that since the Clean Air Act of 1990 there have been no real strides towards addressing climate change. This lack of environmental action



by the US gives the CPP significance in the international context as it appears as a drastic plan to limit carbon emissions, which aligns with the international discussion regarding sustainable development while not yet actually showing evidence of lowering emissions. I describe this as an example of a symbolic characteristic of the CPP as an environmental policy.

### **A Contemporary Coal Regime: The Domestic Cost of Improving International Relations**

The CPP and moratorium on the leasing of federal land for coal production suggest constraining effects of the GERR on sovereignty. A double edged sword, the GERR defines legitimate environmental policy, which also provides a structure for obtaining the legitimacy necessary for becoming an international leader. A leadership role gives a nation-state the power to influence the global environmental discourse, but the diplomatic use of coal by the US provide a new social dimension of coal.

Symbolically, the CPP and moratorium align with the GERR and present an active pursuit of regulatory action aimed towards achieving the carbon emission goals that the US pledged to the UNFCCC in 2009. The importance of this symbolism relates to creating a basis of legitimacy for the US. Under the Bush administration, US lack of involvement in international agreements and avoidance of limiting carbon emissions to preserve economic stability can be attributed to a loss of diplomatic legitimacy in international climate negotiations (Bryne et al. 2008; McCright and Dunlap 2003). The CPP and moratorium appear to push the US in the direction of cooperating internationally, but also, according to collaboration games, put the US in a position of diplomatic power in regards to providing a reference to 'action' that supports US legitimacy in its involvement in addressing climate change.

Substantively, the CPP aims to reduce carbon emissions by 32% of the 2005 levels by 2030, while the moratorium provides a period of time for the Department of the Interior to restructure the federal management of coal production, potentially reducing total GHG emissions in the US by up to a maximum of 10% if coal production completely stopped (Whitehouse; Department of the Interior 2016: 4). Thus far, substantive claims can only be hypothetical, but the potential for a real beneficial effect exists. While these regulations offer symbolic advances with the potential for substantive results specifically related to the international context for addressing climate change, there are domestic substantive consequences that affect coal communities and the coal industry.

Along with CPP and the moratorium, the fiscal year 2016 budget administration also released the Power+ Plan (Whitehouse). The purpose of this plan relates to the predicted outcome for coal communities and offers federal financial assistance for coal communities to restructure their economies (Whitehouse). This shows recognition by the federal government of the costs for coal communities tied to the regulatory capacity of the CPP. The Power+ Plan appears as an effort to maintain domestic legitimacy by offering federal support to communities most likely to be negatively affected by the CPP.

Along with negative community impacts, the downward trend of the coal industry itself also contributes to domestic environmental harms. In the US, coal production reached its lowest point in 2015 since 1986 (Department of the Interior 2016). The Department of the Interior stated, "As a result, a number of mines in the U.S. have idled production, several major coal companies have entered Chapter 11 bankruptcy, many coal miners have been laid off, and coal-dependent communities have suffered" (Department of the Interior 2016). Market

conditions already present a decline in coal production, and the CPP pushes this negative trend further. Research describes the inability of coal-burning power plants to meet the emission standards proposed by the CPP due to current technological limitations (Hampf and Rodseth 2015; Kotchen and Mansur).

There exists both domestic and international fields in which the nation-state must retain legitimacy in order to gain the capacity to extend its sovereignty in international climate negotiations. The CPP and moratorium have the potential to advance the negative trend of the coal industry, resulting in further unemployment and economic problems in coal producing communities. In an attempt to retain domestic legitimacy, the federal government financed for the Power+ Plan to help support these communities. At the same time, these regulations provide legitimacy for the US in its pursuit of national interests at the international climate conferences, gained through realigning the energy sector of the US with the GERR's proposed model of carbon efficiency.

Before moving forward to discuss the emergence of a new coal regime, the coal regimes from Chapter 2 need to be reviewed. The first period was the Imperial Coal Regime of the 19<sup>th</sup> century, in which the resource played an influential role in trade, military security of trade rounds, and industrialization as the US pursued interests related to establishing itself as an empire. The second period, the Energy Security Coal Regime, was marked by the importance of coal to the energy infrastructure of the US during the 20<sup>th</sup> century through its use in the production of electricity. During this period, coal offered national security through energy security, based on the vast deposits of coal in the US, allowing for domestic production to meet the needs of domestic consumption, especially when other energy resources were scarce.

Although coal undeniably retains its position as a necessary resource for electricity production in the US, the recent regulatory actions of the federal government push for restructuring the energy sector to decrease total GHG emissions in accordance to the current GERR. The current global trend appears to be an international push away from coal consumption as the Energy Information Administration shows a 21% decline in US coal exports, reflecting decreasing global demand for coal (Department of the Interior 2016: 5; EIA). To better position itself as cooperative and to meet its commitments from the COP in Copenhagen, the recent regulations attempt to realign the state's energy sector with the overall global trend.

This context propose a path towards the emergence of a Diplomatic Coal Regime. The US relationship with coal appears to be transitioning towards its use as a means for international legitimacy. As mentioned before, the GERR indirectly influences the state with constraints on developmental strategies, specifically related to energy development. In order to extend state sovereignty into international negotiations, legitimacy in the international field must be gained through the implementation of domestic environmental regulations. This becomes the new role of coal as regulations frame a domestic trend towards cutting carbon emissions through regulating coal power plants and restructuring the management of coal production on federal land. The diplomatic terrain of the UNFCCC requires a state to have a foundation of legitimacy supported by an alignment with sustainable development standards set by international agreements. Influence as an environmental leader is established by a foundation of international legitimacy, and in the case of the US, balancing the domestic cost to coal developing communities while simultaneously taking federal action aimed at limiting carbon emissions shapes a path towards exercising sovereignty in future climate negotiations

through the diplomatic power required to influence the future GERR in accordance with national interests.

### *Considering the Diplomatic Coal Regime*

The emergence of a new coal regime affects future strategies for US development, specifically related to the energy sector. If the US does not engage itself in the global conversation, then the country will lack the means required to hold legitimate authority in international negotiations that consequently set guidelines and standards for energy development. While historically the US's isolationist approach to addressing climate change allowed for economic growth and the country's sustained position as a global leader, this approach also intensified the US's contributions to climate change. Undoubtedly, the global crisis of climate change will require action with the global public already protesting and desiring the implementation of enforcement mechanisms in future international agreements. If the US hopes to maintain its sovereignty, then the nation needs to establish itself as a legitimate leader in future negotiations.

The context of energy use and developmental strategies fluctuates, meaning that the particular state of the coal regime depends upon the historic circumstances that determine national interests. Historically, environmental interests of the US focused on appeasing public concern, which resulted in primarily symbolic regulations. As said before, this only furthered the nation's dependency on fossil fuel sources that contribute to climate change with coal being the safety net of domestic energy security. The Diplomatic Coal Regime represents a historical period in which the required cooperation of international actors to address climate

change influences the US's relationship to the resource and industry. Regulatory attempts by the US, such as the CPP and moratorium, present a divergence of the state from using coal as a primary source of energy. This provides a new role for coal in the sense of it acting as a symbol of the US's commitment to international efforts and contributes to the nation's legitimacy at future COPs.

The Diplomatic Coal Regime provides a new understanding of the environmental state in the context of international climate negotiations. Unlike the global security pressures on the US related to trade and energy supply during the 19<sup>th</sup> and 20<sup>th</sup> century, global pressure takes its form in the constraint of state sovereignty. Extending and even maintaining sovereignty requires environmental regulation that symbolically represents the US's cooperation with the international effort to address climate change. This appears to align with the symbolic environmental regulations the Energy Security Coal Regime, but the difference lies in the substantive characteristic. Substantively, the Clean Air Act under the Energy Security Regime only restructured domestic coal production to the American West. The coal regulations under the Diplomatic Coal Regime will actually result in strict emission cuts through the reduction of domestic coal consumption. The contemporary environmental state may still act in accordance to national interests of security and extending power in the international arena, but the difference lies in the positive environmental effects of the regulations required in order to do so.

Although this new regime of coal will require some sort of shift in domestic development strategies related to the energy sector that align with the GERR, authoritative legitimacy in future international negotiations provides the means for the US to directly

influence changes in the GERR and ultimately determine the future model for sustainable development. A current sacrifice of sovereignty in domestic development could yield greater power in the future for the US. As the nation acquires earns a leadership role in the collaboration games of international climate conferences, the US will be in a position to more directly influence the GERR in alignment with domestic interests. Essentially, by currently cooperating internationally, the US positions itself to extend state sovereignty in a time of growing global constraints and ultimately increase control of domestic and international development strategies in alignment with its own interests.

## CHAPTER 5: CONCLUSION

Rising global concern in the face of increasing rates of natural disasters, droughts, floods, and changing weather patterns and temperatures has shaped a dire demand for international cooperation to address current and future forces contributing to global climate change. International negotiations at the UN climate conferences have been criticized for their inadequate emission goals and lack of enforcement mechanisms, purportedly representing minimal causal influence on individual nation-state action. There does not appear to be enough research on the potential for indirect influence of agreements made at the UN's annual Conferences of the Parties (COPs) on the individual nation-state. Through the application of regime, environmental state, and world society theories, this thesis analyzed an alignment between international environmental agreements and recent US policies to show how the domestic coal regime has been transformed since the US signed the Copenhagen Accord.

In the second chapter, the concept of energy regime provided a theoretical framework for understanding the historical and institutional arrangements surrounding coal. The resource drove economic growth and infrastructural transformations and also provided military and energy security during the 19<sup>th</sup> and 20<sup>th</sup> centuries. Each period represents a specific coal regime: Imperial Coal Regime, Energy Security Coal Regime, and later, a Diplomatic Coal Regime. Historically, coal played a significant part in the US's emergence as a global leader and Great Power. As a fuel utilized in industrialization, coal set the US in motion as a powerful economic force, but on a global scale, it allowed for efficient transportation and trade networks that set the conditions for modern globalized systems. Coal use for electricity during the 20<sup>th</sup>



century was significant in shaping contemporary energy grids, while also providing energy security in times where other energy resources were scarce.

Chapter 3 provided a review of environmental state and world society theories in order to develop the synthesized perspective used in this analysis. The environmental state, or the capacity for, direction of, and reasoning underlying environmental concern and action by a nation-state, should be situated within its international relationships and the broader Global Environmental Regulatory Regime (GERR). The latter part of the third chapter details the US's role in major international agreements, such as the UNFCCC, the Kyoto Protocol, and the Copenhagen Accord, and the intersection of US environmentalism into federal regulatory policy that affected coal production and burning.

The outline of international negotiations and domestic regulations in the third chapter provided the foundation for the analysis that took place in Chapter 4. Recent efforts to reduce reliance on coal made by the federal government under the Obama Administration highlight an indirect influence of the UN conferences on the US, especially considering the symbolic importance of legitimacy found in the earlier federal Clean Air Acts. Considering the increasing importance of international climate negotiations and the US's historical lack of leadership in these negotiations due to the country's lack of participation in climate action, recent domestic regulations after the 2009 conference in Copenhagen reflect the US's growing engagement in international "collaboration games" (Parks and Roberts 2008). The Obama administration's support of an agreement in 2009 to cut emissions and its committing to the Copenhagen Accord stands in direct opposition to the previous climate platform of the Bush Administration.

The trend toward framing climate action in the COPs develops under the overarching discourse of sustainable development that makes up the current GERR. The primary action defined under the GERR involves developmental and infrastructural transformations that will cut emissions that contribute to climate change. The GERR and international agreements constrain sovereignty indirectly by defining both the conditions of climate change and the appropriate actions needed to remedy the changing climate.

Actions taken under the Obama Administration align with the GERR with a focus on restructuring federal coal development and setting emission limits for coal-burning plants. While these actions have the potential for substantial decreases in domestic emissions, another consideration that requires attention is the symbolic effect on the US's leadership position in future UN climate conferences. US cooperation under the Copenhagen Accord and proposed climate policies provide a reference of legitimacy at future international climate conferences. Through the lens of collaboration games, US action represents a path towards a renewed leadership role in international negotiations in order to extend its sovereignty and more directly, and legitimately, influence the GERR and discourse for sustainable developmental strategies.

A Diplomatic Coal Regime has emerged because of political and institutional developments surrounding the use-value of the resource. While coal remains an important fossil fuel for energy production in the US, recent policies situate the resource as a means of environmental legitimacy by representing a national push away from resource dependency on coal. With new federal constraints on coal under the Obama Administration, the resource has

become a political tool in international climate negotiations vis-à-vis the very real and intensifying effects of climate change.

Although the UN climate agreements may lack the means for directly influencing nation-state action, the indirect and conditional effects show a potential for progress in addressing climate change. The tangible threat of climate change and more subtle threat of the GERR for national security through emerging developmental constraints, or 'blueprints', establishes an influential leadership position at the UN's COPs as an increasingly powerful role in international relations. The lack of direct enforcement mechanisms in the climate agreements does weaken global efforts to mitigate and adapt to climate change; enforcement mechanisms will hopefully be implemented sooner rather than later in upcoming UN conferences, but the conferences and the GERR still have gained momentum in bringing one of the most resistant nations to committing to an international plan to address climate change and even proposing its own domestic plan to cut emissions in alignment with the Copenhagen Accord.

This project contributes to theories of the environmental state by drawing on the current situation of individual nation-states as they are interconnected by global climate forums, such as the UN climate conferences. The GERR defines the 'blueprint' for environmentally progressive development, which itself poses environmental leadership as an important attribute for securing and extending sovereignty in a world with the looming threat of intensifying climate change. An indirect effect of the global climate conferences emerges from the institutional structure of the Diplomatic Coal Regime, considering the historical significance of coal in US development and the current push away from the high-emission producing fossil fuel.

The findings establish new theoretical implications regarding the state, society, and sovereignty in the face of increasing environmental threats. Bill McKibben describes climate change as a “world war” that requires a united international front to overcome it (2016). The war-like threat creates an intensifying pressure for both international collaboration and climate action. While still recognizing the important influence of domestic environmental movements, the international context and membership of modern nation-states in the World Society shapes the role of the environmental state.

Growing interconnectedness between nation-states through technology, the economy, and the environment redefine sovereignty as isolationist ideologies clash with the reality of globalization. Maintaining and the potential for extending sovereignty typically takes place in international settings and involves diplomatic struggles. Legitimacy in the environmental diplomatic struggles depends upon the alignment of domestic climate plans with international agreements. The agreements shape the role of the nation-state in addressing environmental issues by prescribing developmental strategies that cut emissions. By at first sacrificing sovereignty in accordance to the international agenda, a nation-state gains legitimate negotiating power at future conferences and will thus be able to influence new agreements that more closely align with self-state-interests.

The Climate Action Plan (CAP) sets a stage for the US position in addressing climate change along with the follow-up policies of the Clean Power Plan (CPP) and moratorium on the federal leasing of land for coal production showing proposed action by the federal government. Compared to the stance on climate change of the Republican executive leadership after the turn of the century under President Bush, Democratic President Obama brought the US back

into the UN climate conferences' negotiations by agreeing to the Copenhagen Accord in 2009. This suggests a relationship between party leadership at the executive level and climate action, specifically involving cutting carbon emissions through severing ties and energy dependency on coal. Considering the historical situation and global and domestic institutional structure that constructs a regime, the momentum of the Diplomatic Coal Regime should persist regardless of administrative changes at the federal level. Of course, it is far too early to prove such a claim, but the theoretical and analytical findings of this thesis propose the possibility for a sustained coal regime that reconsiders coal use and involves federal regulations that continue to align with the agreements made at the international level.

### **Limitations and Future Research**

The final claim in the previous section leads into a discussion of the limitations of this research. Considering the recentness of the CAP, CPP, and moratorium, as well as the November 2016 election results, strong predictions about the US's future participation and role in the UN climate conferences are not possible. Another related limitation includes the actual domestic effects of these policies on both US emissions and potentially coal communities. This thesis analyzes the claims and language of these policies in reference to the UN's international agreements to frame the present domestic coal regime, but analyzing the actual effects of these regulatory actions will require the passage of time.

While the executive changes between the Bush and Obama administrations and their respective approaches to the issue of climate change could be discussed sufficiently, the resiliency of the Diplomatic Coal Regime against executive and administrative changes remains

theoretical. A federal administration change will take place in early 2017, and the effects of such a change on the US's stance for addressing climate change and relationship to coal will also require time for the new president and administration to settle and begin to take domestic action and participate in the annual COPs. Until then, this thesis offers an analytical framework for observing the future of the US environmental state and the Diplomatic Coal Regime.

Although these limitations do have a major impact on the discussion of findings, this paper offers a foundation for future research projects that can overcome the constraints of working with recent policies. Discourse frames change fluidly as power dynamics shift amongst involved actors and forces. Additional research can focus on how the action taken by the Obama administration has influenced the role and influence of the US in future COPs.

This project briefly described the influence of civil society and environmentalism on influencing domestic environmental regulation, but future research could expand upon this through a broader global production network approach that includes reference to lobbying, US regional influences, and multinational corporations. The importance of lobbying by the fossil fuel industries, the environmental countermovement, and climate change movement on regulation pose significant influential forces on the energy sector and overall legitimacy of the federal government. Regions across the US differ in their perception and subsequent actions to address climate issues with individual state regulations varying across the US. Multinational corporations also contribute to shaping the international discussion and decision-making regarding strategies to globally address climate change. These forces contribute to the institutional and situational construct that make-up the coal regime and global environmental regulatory regime and should be further explored to provide a clearer and more nuanced

regime framework, providing additional dimensions to the international discourse on sustainability and nation-state positions in international negotiations.

Finally, the limitation of this research in focusing only on the energy resource of coal confines the findings to only the contemporary coal regime. Comparing alternative energy resource policies and exploration by the federal government would provide a broader perspective on the overall energy regime in the US. Domestic natural gas, oil, nuclear, and renewable sources of energy reflect either further dependence on alternative or bridge fossil fuels or sustainable and low emitting sources of energy. The US's actions pertaining to these coal alternatives can also be evaluated in terms of the sustainable development discourse at the international level in order to determine if the push away from coal truly aligns with international development strategies to cut emissions or only shifts climate change contributing emissions to a new source.

This thesis provides preliminary findings regarding the current US environmental state's attempts to extend its sovereignty in the UN climate conferences. The analytical framework can be built upon through further research to better conceptualize the theoretical regime models described once the potential effects of the policies begin to take shape. Once a new federal administration replaces the Obama Administration in 2017, the resiliency of the Diplomatic Coal Regime and its role in shaping the US position in international negotiations will be tested.

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