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**THE DESTINY OF CLEAN ENERGY: LEGALITY OF THE EPA'S
CLEAN POWER PLAN WITH RESPECT TO EMISSIONS TRADING**

*Samuel H. Helton**

Cleaner energy is necessary to avoid significant health and climate risks in the future, and no energy is dirtier than our nation's fossil-fuel burning power plants. The United States Environmental Protection Agency's ("EPA") Clean Power Plan seeks to address the hazards posed by the electricity sector, and proposes carbon dioxide ("CO₂") emissions trading as an efficient, cost-effective option to do so. This Recent Development argues that the Clean Power Plan should be upheld with respect to emissions trading. First, a reasonable interpretation of section 111(d) of the Clean Air Act ("CAA") provides a legal basis for carbon dioxide emissions trading. Second, a thorough analysis of North Carolina's legislative history provides an example of why carbon dioxide emissions trading is legal without authorization from state general assemblies. Further, emissions trading allows for easier Clean Power Plan compliance by power plants. The EPA should be granted the deference to set emissions trading as a valid compliance option.

I. INTRODUCTION

Imagine a future with significantly fewer premature deaths, heart attacks, asthma attacks, and hospitalizations each year. Transitioning to cleaner energy sources can realize this future, along with several other global health and climate benefits, by

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reducing the emission of harmful air pollutants.¹ Greenhouse gas pollution threatens the United States, and the world, because it creates long-lasting and damaging impacts on our climate, which negatively affect public health and the environment.² CO₂ is the most widespread greenhouse gas (“GHG”) pollutant, accounting for nearly seventy-five percent of global GHG emissions and eighty-two percent of total U.S. GHG emissions.³ The largest source of CO₂ emissions are power plants, accounting for thirty-one percent of total U.S. GHG emissions.⁴ On August 3, 2015, President Obama announced the EPA’s release of the final version of the Clean Power Plan.⁵ The rule, created under section 111(d) of the Clean Air Act (“CAA”), is meant “to protect human health and the environment by reducing CO₂ emissions from fossil fuel-fired power plants in the U.S.”⁶ By 2030, the Clean Power Plan aims to achieve CO₂ emission reductions of approximately thirty-two percent from CO₂ emissions levels in 2005.⁷ However, many states and organizations disapprove of the plan and will likely challenge the legality of the plan in court.⁸ According to Environment and

¹ See generally *FACT SHEET: Clean Power Plan Benefits of a Cleaner, More Efficient Power Sector*, U.S. ENVTL. PROT. AGENCY, <http://www2.epa.gov/sites/production/files/2015-08/documents/fs-cpp-benefits.pdf> (last updated Aug. 13, 2015) (discussing the health and climate benefits realized by the Clean Power Plan by shifting to cleaner energy).

² See *id.*

³ See *id.*

⁴ See *id.*

⁵ Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Final Rule, 80 Fed. Reg. 64661 (Oct. 23, 2015) (to be codified at 40 C.F.R. pt. 60) [hereinafter *Clean Power Plan Final Rule*], available at <http://www.gpo.gov/fdsys/pkg/FR-2015-10-23/pdf/2015-22842.pdf>.

⁶ See *id.* at 64664.

⁷ See *id.* at 64665.

⁸ See, e.g., Andrew Harris, *Obama, EPA Defend Clean Power Plan Against States’ Challenge*, BLOOMBERGBUSINESS (Aug. 31, 2015, 6:04 PM), <http://www.bloomberg.com/news/articles/2015-08-31/obama-epa-defend-clean-power-plan-against-states-challenge> (explaining that fifteen states, led by West Virginia, asked a federal court in Washington to delay the Clean Power Plan); *Q&A: EPA Regulation of Greenhouse Gas Emissions from Existing Power Plants*,

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Energy Publishing, the leading source for comprehensive, daily coverage of environmental and energy policy and markets, “Less than 12 hours from when President Obama’s landmark regulations for power plants were published in the *Federal Register*, it became the most heavily litigated environmental regulation ever and seemingly destined for the Supreme Court.”⁹

Among the several potential targets for litigation,¹⁰ the legality of emissions trading under the Clean Power Plan will be heavily

CENTER FOR CLIMATE AND ENERGY SOLUTIONS, <http://www.c2es.org/federal/executive/epa/q-a-regulation-greenhouse-gases-existing-power> (last visited Nov. 6, 2015) (stating that a number of states have already brought legal actions challenging the Clean Power Plan, and several more will most likely join their effort); Reuters, *Fifteen US states seek to block Obama’s clean power plan*, THE GUARDIAN (Aug. 14, 2015, 5:42 AM), <http://www.theguardian.com/environment/2015/aug/14/fifteen-us-states-seek-block-obamas-clean-power-plan> (stating that fifteen state attorneys general petitioned a federal court in Washington to block the Clean Power Plan); Davide Savenije, *15 states launch legal battle against EPA’s Clean Power Plan*, UTILITY DIVE (Aug. 17, 2015), <http://www.utilitydive.com/news/15-states-launch-legal-battle-against-epas-clean-power-plan/404105/>. Fifteen states have filed a petition for an emergency stay with the U.S. Court of Appeals against the Clean Power Plan. *Id.* The states are arguing that the EPA cannot regulate an emissions source under 111(d) if it is already regulated under section 112, and that the EPA can only regulate emissions at the smokestack and may not implement anything “outside the fenceline”. *Id.*; Samantha Page, *16 States Think The EPA’s Emissions Rule Isn’t Legal And They Shouldn’t Have To Comply*, THINK PROGRESS (Aug. 6, 2015, 1:00 PM), <http://thinkprogress.org/climate/2015/08/06/3688652/first-shot-at-finalized-clean-power-plan-arrives/> (discussing how sixteen states had already formally requested an administrative stay of the Clean Power Plan less than a week after its release).

⁹ *Legal Challenges – Overview & Documents*, E&E PUBLISHING, LLC (2015), http://www.eenews.net/interactive/clean_power_plan/fact_sheets/legal.

¹⁰ See, e.g., Patrick Parenteau, *The Clean Power Plan Will Survive: Part 1*, LAW 360 (Sept. 28, 2015), <https://www.law360.com/articles/704046/the-clean-power-plan-will-survive-part-1> (providing that four prominent legal targets of the Clean Power Plan are: (1) whether the CAA section 111(b) rule setting carbon standards for new and modified power plants, which is the precondition of section 111(d), is valid; (2) whether section 111(d) is even enforceable after the two separate versions passed from the House and Senate; (3) whether the EPA can implement “beyond the fenceline” options, such as emissions trading; and (4) whether the Clean Power Plan violates the Tenth Amendment); Keith

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scrutinized.¹¹ Those opposing the plan believe that section 111(d) of the CAA offers no legal authority for an emissions trading program.¹² Furthermore, opposing parties insist that state legislation authorizing CO₂ emissions trading is required, even if a trading program is found to be legal under the federal plan.¹³

Goldberg, *Legal Eagles Question EPA Authority For Clean Power Plan*, LAW 360 (Mar. 17, 2015), <http://www.law360.com/articles/631957/legal-eagles-question-epa-authority-for-clean-power-plan> (discussing two additional challenges to the Clean Power Plan: (1) that utilities regulated under CAA section 112 cannot be regulated under Section 111(d); and (2) that the Clean Power Plan violates the sovereignty of the states under the Fifth and Tenth Amendments).

¹¹ See, e.g., Nathan Richardson, *A Quick Legal FAQ on EPA's Clean Power Plan*, RESOURCES FOR THE FUTURE (July 14, 2015), <http://www.rff.org/blog/2015/quick-legal-faq-epa-s-clean-power-plan> (stating that the emissions trading is one of the four main legal risks of the Clean Power Plan); William W. Buzbee et al., *The Clean Power Plan: Issues to Watch*, CENTER FOR PROGRESSIVE REFORM 57–58 (Aug. 2015), http://progressivereform.org/articles/CPP_1506.pdf (acknowledging that emissions trading under the Clean Power Plan will be a legal issue, but arguing in support of an emissions trading program).

¹² See, e.g., Joe Koncelik, *Clean Power Plan – An Ambitious Plan with Serious Legal Issues*, OHIO ENVTL. L. BLOG (Aug. 10, 2015), <http://www.ohioenvironmentallawblog.com/2015/08/articles/climate-change/clean-power-plan-an-ambitious-plan-with-serious-legal-issues/> (describing how opponents of the plan argue that section 111(d) is limited to requiring certain technologies to be installed at the power plants themselves, and doesn't allow for outside reductions, such as an emissions trading program); Nathan Richardson, *A Quick Legal FAQ on EPA's Clean Power Plan*, RESOURCES FOR THE FUTURE (July 14, 2015), <http://www.rff.org/blog/2015/quick-legal-faq-epa-s-clean-power-plan> (stating that section 111(d) does not explicitly allow trading).

¹³ See, e.g., Craig Gannett, *Implementing Section 111(d) of the Clean Air Act: The Pathway to Regional Cap-And-Trade Programs?*, ROCKY MOUNTAIN MIN. L. FOUND. SPECIAL INST. ON CLIMATE CHANGE L. & REG. 12 (Jan. 23, 2015), <http://www.dwt.com/files/Publication/564b041d-5bbe-4167-b8e6-c17233b67198/Presentation/PublicationAttachment/85c4e92a-492b-4de7-9144-c1bfd55a6f0b/Gannett%20Regional%20Cap%20Trade%20Paper%201-15.pdf> (suggesting the need for state legislation authorizing the participation of state clean air regulators in a regional emissions trading organization); *Multistate Coordination Resources for Clean Power Plan Compliance: Sample Documents for Consideration*, THE NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS 19 (June 2015), <http://www.naruc.org/Grants/Documents/>

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This Recent Development argues that there are several reasons that the Clean Power Plan should be upheld with respect to emissions trading, and explains why CO₂ emissions trading is legal without authorization from state general assemblies. Part II discusses the legislative authority behind the Clean Power Plan, how states can comply, and the concept behind CO₂ emissions trading. Part III assesses the legality of the Clean Power Plan's CO₂ emissions trading program and describes how it is a key component in state compliance. Finally, Part IV concludes by illustrating that authorization from state general assemblies is unnecessary for states to legally implement an emissions trading program, using North Carolina as an example.

II. THE CLEAN POWER PLAN: AUTHORITY, COMPLIANCE, AND EMISSIONS TRADING

The EPA's Clean Power Plan has two main objectives.¹⁴ The first is to establish guidelines that reflect both the unique way in which the power system operates, and the actions, strategies, and policies that states and utilities have already undertaken to reduce CO₂ emissions.¹⁵ The United States' power system is an interconnected, interdependent, and complex network of power plants and transformers connected by thousands of miles of high-voltage transmission lines.¹⁶ Several states and utilities have already incorporated on-site power plant technologies, or have participated in regional emissions trading programs to reduce their CO₂ emissions.¹⁷ The plan's second objective is to provide states

Multistate%20111d-Coordination-FINAL%20_June2015.pdf (stating that a common theme among opposing states is that authorizing state legislation is necessary for state plans, or parts thereof, such as an emissions trading program).

¹⁴ See Clean Power Plan Final Rule, *supra* note 5, at 64665.

¹⁵ See *id.*

¹⁶ *Top 9 Things You Didn't Know About America's Power Grid*, DEPT. OF ENERGY (Nov. 20, 2014), <http://energy.gov/articles/top-9-things-you-didnt-know-about-americas-power-grid>.

¹⁷ See, e.g., *New Natural Gas Generation: Project Overview*, DUKE ENERGY (2015), <https://www.duke-energy.com/about-us/natural-gas-overview.asp> (discussing how Duke Energy retired three coal-fired power plants and

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and utilities with a number of compliance options and significant flexibility in how they achieve their assigned emissions goals.¹⁸ The CAA provides the statutory authority for the state implementation plans (“SIPs”) used to meet these two objectives. This section discusses the basis of the Clean Power Plan by focusing on: (A) the statutory authority from which the plan was created, (B) the options for state compliance under the plan, and (C) the role of CO₂ emissions trading for state compliance.

A. *Statutory Authority*

The EPA created the Clean Power Plan pursuant to section 111(d) of the federal CAA,¹⁹ which gives the EPA authority to regulate emissions of air pollutants from existing sources by requiring states to adopt emissions “standards of performance” for those sources.²⁰ The regulations created under section 111(d) should establish a procedure similar to CAA section 110,²¹ which requires the state in question to adopt a SIP and submit that plan to the Administrator of the EPA and discusses the necessary contents to be included within the plan.²² The EPA shall require the SIPs created and submitted to the Administrator under section 111(d) to establish “standards of performance” for any existing source for any air pollutant for which air quality criteria have not been issued under CAA sections 108(a) or 112(b), but to which a “standard of performance” would apply if such existing source were a new

implemented five natural gas-fired power plants in order to significantly reduce harmful emissions while greatly increasing electricity generating capacity); *Welcome*, Regional Greenhouse Gas Initiative (2015), <http://www.rggi.org/> (discussing how RGGI, a cooperative among nine northeastern states, is the first market-based program in the United States to reduce carbon dioxide emissions through regional cap and trade).

¹⁸ Clean Power Plan Final Rule, *supra* note 5, at 64665. The plan discusses several potential compliance options for states to meet their emissions goals, and leaves significant flexibility to the states in deciding which compliance options to use. For further discussion *see infra* notes 41–68.

¹⁹ *See* Clean Power Plan Final Rule, *supra* note 5, at 64663.

²⁰ *See* 42 U.S.C. § 7411(d) (2015).

²¹ *Id.* § 7410(a) (2015).

²² *See id.*

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source under CAA section 111(b).²³ “Standard of performance” is defined as “a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction [(“BSER”)] which . . . the Administrator determines has been adequately demonstrated.”²⁴ This process of regulating under section 111(d) is explained through three steps.²⁵

First, the EPA releases “guideline documents” that identify different systems for reducing emissions and determine the BSER for the pollutant being regulated, in this case CO₂.²⁶ The BSER must be adequately demonstrated through consideration of cost, energy requirements, and environmental impacts.²⁷ Furthermore, the guideline documents have emissions criteria indicating the level of emissions reduction achievable through implementation of the BSER.²⁸ Second, as discussed above, each state creates a SIP establishing a standard of performance and discussing how that standard will be implemented and enforced.²⁹ It is important to note that states play a significant role under section 111(d).³⁰ It is the states, not the EPA, that create the standards of performance and determine how the sources within state borders will meet those standards.³¹ The EPA’s guidance is only to serve as a reference for the states in making their decisions.³² Lastly, each state submits their Section 111(d) SIP to the EPA for approval based on whether

²³ *Id.* § 7411(d) (2015).

²⁴ *Id.* § 7411(a)(1) (2015).

²⁵ See Jeremy M. Tarr, Jonas Monast & Tim Profeta, *Regulating Carbon Dioxide under Section 111(d) of the Clean Air Act*, NICHOLAS INSTITUTE FOR ENVIRONMENTAL POLICY SOLUTIONS, DUKE UNIVERSITY, NI R 13-01 1, 6 (Jan. 2013), https://nicholasinstitute.duke.edu/sites/default/files/publications/ni_r_13-01.pdf (discussing the background and process for regulating under section 111(d) of the CAA).

²⁶ *See id.*

²⁷ *See id.*

²⁸ *See id.*

²⁹ *See id.* For further detail on the second step *see supra* notes 22–26.

³⁰ *See id.* at 7.

³¹ *See* Tarr et al., *supra* note 25, at 7.

³² *See id.*

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the SIP satisfies the baseline criteria required by EPA's guidelines.³³ If a state fails to submit a plan or submits a plan that the EPA determines does not meet the basic criteria laid out in the guidelines, the EPA may develop a federal implementation plan³⁴ and apply it to the state.³⁵

Using the statutory authority of section 111(d), the EPA determined the BSER for CO₂ under the Clean Power Plan to include three "building blocks": (1) heat rate improvements at affected coal-fired steam electric generating units ("EGUs"), (2) substituting lower-emitting natural gas combined cycle units for reduced generation from higher-emitting affected steam generating units, and (3) substituting increased generation from new zero-emitting renewable energy generating capacity for reduced generation from affected fossil fuel-fired generating units.³⁶ Building block one is designed to improve the efficiency of burning coal resulting in fewer CO₂ emissions from coal-fired power plants.³⁷ Building block two simply means replacing coal-fired power plants with natural gas combined cycle power plants.³⁸ Building block three suggests incorporating more renewables while preserving existing and under-construction nuclear power plants.³⁹ These three building blocks are approaches available to all affected EGUs for achieving state compliance; however,

³³ *See id.*

³⁴ *See, e.g.*, Federal Plan Requirements for Greenhouse Gas Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations; Proposed Rule, 80 Fed. Reg. 64966 (Oct. 23, 2015), *available at* <http://www.gpo.gov/fdsys/pkg/FR-2015-10-23/pdf/2015-22848.pdf>.

³⁵ *See* Tarr et al., *supra* note 25, at 7.

³⁶ *See* Clean Power Plan Final Rule, *supra* note 5, at 64667.

³⁷ *See* Jonathan L. Ramseur & James E. McCarthy, *EPA's Clean Power Plan: Highlights of the Final Rule*, CONGRESSIONAL RESEARCH SERVICE, R44145 CRS Report 1, 5 (Aug. 14, 2015), *available at* <https://www.fas.org/sgp/crs/misc/R44145.pdf>.

³⁸ *See id.*

³⁹ *See id.*

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compliance is not strictly limited to these three approaches.⁴⁰ The next section of this Recent Development explains how states will comply with the mandatory baseline requirements of the Clean Power Plan.

B. *State Compliance*

The Clean Power Plan requires states to submit to the EPA either an initial or final SIP by September 6, 2016.⁴¹ States submitting an initial plan can request a two-year extension from the EPA to submit their final plan by September 6, 2018.⁴² However, states granted the extensions are required to submit plan progress reports by September 6, 2017.⁴³ As for the structure of state compliance plans, the Clean Power Plan presents two types of SIPs for states to choose from: (1) an “emissions standards” approach, or (2) a “state measures” approach.⁴⁴ An emissions standards SIP approach would implement the federally enforceable emission rate standards⁴⁵ directly at the EGUs in the state.⁴⁶ This type of plan could involve multiple states and include an emission rate trading system or a mass-based trading system.⁴⁷ In contrast, a state measures SIP approach would allow states to achieve the

⁴⁰ See Clean Power Plan Final Rule, *supra* note 5, at 64667; see also David Doniger, *Understanding the EPA's Clean Power Plan*, SWITCHBOARD: NATURAL RESOURCES DEFENSE COUNCIL STAFF BLOG (Aug. 11, 2015), http://switchboard.nrdc.org/blogs/ddoniger/understanding_the_epas_clean_p.html (discussing how emissions trading and energy efficiency are two of the most prominent compliance options that are not included within the Clean Power Plan Final Rule's three building blocks).

⁴¹ See Ramseur & McCarthy, *supra* note 37, at 2.

⁴² See *id.*

⁴³ See *id.*

⁴⁴ See Clean Power Plan Final Rule, *supra* note 5, at 64709; see also *The Role of States: States Decide How To Meet Their Goal*, U.S. ENVTL. PROT. AGENCY (Aug. 2015), <http://www3.epa.gov/airquality/cpp/fs-cpp-states-decide.pdf> (discussing how states can choose which type of SIP they want to submit to the EPA).

⁴⁵ For further explanation of the emission rate standards, see *infra* notes 49–61.

⁴⁶ See Ramseur & McCarthy, *supra* note 37, at 2.

⁴⁷ See *id.* For further discussion of emission rate and mass-based trading systems see *infra* notes 69–75.

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equivalent of the CO₂ emissions standards approach by using a combination of federally enforceable standards and elements that would be enforceable only under state laws.⁴⁸ No matter what type of plan a state chooses, the desired result is to meet the emissions goals created for that state by the EPA.

To generate state emissions goals under the Clean Power Plan final rule, the EPA first established CO₂ emission performance standards for two subcategories of affected EGUs: (1) coal and oil-fired power plants, and (2) natural gas combined cycle power plants.⁴⁹ Second, the EPA divided the states into three regions and compiled 2012 data of CO₂ emissions and electricity generation from each affected source in each state.⁵⁰ Third, using the final rule's three building blocks, the EPA calculated annual emission rates for each type of affected EGU in each of the three regions.⁵¹ Finally, the EPA generated state-specific interim emissions goals and final emissions goals by applying the annual performance rates for each type of EGU to each state's 2012 baseline fossil fuel generation mix.⁵²

The EPA represented each state's emissions goals in three different forms: (1) rate-based goals measured in pounds per megawatt-hour (lbs/MWh)⁵³, (2) mass-based goals measured in

⁴⁸ See *id.* (providing that examples of measures only enforceable under state laws are renewable energy and/or energy efficiency requirements that could be applied to affected EGUs or other entities within the state); see also *Clean Power Plan – Technical Summary for States*, U.S. ENVTL. PROT. AGENCY, <http://www3.epa.gov/airquality/cpptoolbox/technical-summary-for-states.pdf>.

⁴⁹ See Ramseur & McCarthy, *supra* note 37, at 5.

⁵⁰ See *id.*

⁵¹ See *id.*

⁵² See *id.* For examples of state goals, see Clean Power Plan Final Rule, *supra* note 5, at 64961–64 (providing the three different formats of emissions goals for each state. One example is North Carolina, which has an interim emissions rate goal of 1,311 pounds of CO₂ per megawatt-hour and a final emissions rate goal of 1,136 pounds of CO₂ per megawatt-hour).

⁵³ See Ramseur & McCarthy, *supra* note 37, at 5 (discussing that the typical rate target for emissions is measured in pounds (of CO₂ in this case) released from the smokestacks per each megawatt-hour of electricity generation).

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total short tons of CO₂⁵⁴, and (3) mass-based goals with a new source complement⁵⁵ measured in short tons of CO₂.⁵⁶ Using these goals, states then develop and submit customized SIPs that ensure power plants in their state achieve their interim and final goals.⁵⁷ The interim goals must be achieved on average over the eight-year period of 2022 to 2029.⁵⁸ In addition, the EPA requires states to demonstrate their progress of implementing a gradual application of the best system of emission reduction with “glide paths” that states identify for reduction over three time periods: 2022–24, 2025–27, and 2028–29.⁵⁹ Furthermore, states must fully achieve their final goals by 2030.⁶⁰ However, even though states are not officially required to take action until 2022, the EPA created a new program, the Clean Energy Incentive Program, to “reward early investments in renewable energy (RE) generation and demand side energy efficiency (EE) measures . . . during 2020 and/or 2021.”⁶¹

The Clean Power Plan gives states great flexibility in selecting which compliance options they prefer to use to meet their emissions goals.⁶² Examples of these various compliance options

⁵⁴ See *id.* The EPA used the state-specific emission rate targets to calculate equivalent state-specific mass-based targets, which are measured in metric tons of CO₂. *Id.* Although EPA’s emission rates are in pounds per megawatt-hour, most national and international measures of CO₂ emissions are provided in metric tons. One metric ton is approximately 2,205 pounds.” *Id.*

⁵⁵ See *New Source Complements to Mass Goals Technical Support Document for CPP Final Rule*, U.S. ENVTL. PROT. AGENCY (Aug. 2015), http://www3.epa.gov/airquality/cpp/tsd-cpp-new-source-complements.pdf#_ga=1.15399349.225111521.1440261320 (explaining that the mass-based goals with new source complements represent the EPA’s estimated new source emissions associated with satisfying incremental demand from 2012).

⁵⁶ See *FACT SHEET: Components of the Clean Power Plan: Setting State Goals to Cut Carbon Pollution*, U.S. ENVTL. PROT. AGENCY, <http://www2.epa.gov/cleanpowerplan/fact-sheet-components-clean-power-plan> (last updated Aug. 13, 2015) [hereinafter *FACT SHEET: Components*].

⁵⁷ See *id.*

⁵⁸ See Ramseur & McCarthy, *supra* note 37, at 3.

⁵⁹ See *id.*

⁶⁰ See *FACT SHEET: Components*, *supra* note 56.

⁶¹ See Ramseur & McCarthy, *supra* note 37, at 9.

⁶² See *FACT SHEET: Components*, *supra* note 56.

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include: retiring older coal-fired power plants, switching to natural gas combined cycle power plants, incorporating more renewables, incorporating other non-emitting sources such as nuclear and hydropower, decreasing energy demand by taking measures to increase energy efficiency, and participating in an emissions trading program.⁶³

According to the EPA, emissions trading, through which affected power plants may meet their emissions standards via emission rate credits (for a rate-based standard) or allowances (for a mass-based standard), is arguably the most cost-effective method states can use to meet their goals.⁶⁴ However, emissions trading, by itself, provides several different compliance options. States can engage in emissions trading through formal multistate agreements within multistate SIPs, or by creating a single-state SIP that is “trading-ready.”⁶⁵ A SIP is “trading-ready” if it provides an EPA-approved, or EPA-administered, credit/allowance tracking system and indicates that it would recognize for compliance any emission credit/allowance issued by another state.⁶⁶ Furthermore, the EPA’s federal implementation plan, the plan states must adopt if the EPA rejects their individual SIP, is based on a federal CO₂ cap and trade program.⁶⁷ Therefore, the concept of emissions trading is prevalent in a variety of manners and areas under the EPA’s Clean Power Plan final rule. The specifics of emissions trading are discussed in the following section.

⁶³ See generally Ramseur & McCarthy, *supra* note 37, at 9 (discussing all of the potential compliance options states can take under the Clean Power Plan).

⁶⁴ See *FACT SHEET: Components*, *supra* note 56.

⁶⁵ See Clean Power Plan Final Rule, *supra* note 5, at 64735. Multistate plans must explicitly identify partner states that can interact while trading. *Id.*

⁶⁶ See *id.* at 64839.

⁶⁷ See generally U.S. ENVTL. PROT. AGENCY, FEDERAL PLAN REQUIREMENTS FOR GREENHOUSE GAS EMISSIONS FROM ELECTRIC UTILITY GENERATING UNITS CONSTRUCTED ON OR BEFORE JANUARY 8, 2014; MODEL TRADING RULES; AMENDMENTS TO FRAMEWORK (2015), <http://www3.epa.gov/airquality/cpp/cpp-proposed-federal-plan.pdf> (explaining that the proposed federal implementation plan is based on rate- and mass-based emissions trading programs).

C. *CO₂ Emissions Trading*

Emissions trading is a proven approach to address air pollution.⁶⁸ According to the EPA, “[e]mission trading is a market-based policy tool that creates a financial incentive to reduce emissions where the costs of doing so are the lowest and clean energy investment enjoys the highest leverage.”⁶⁹ Environmental market-based policy tools are regulations that encourage appropriate environmental behavior through price signals rather than through implicit instructions.⁷⁰ In the Clean Power Plan’s case, it is simply the act of setting prices on an instrument representing a certain amount of reduced emissions, and the process of buying and selling those instruments through an economic market. The financial incentive generated through emissions trading is the potential for an EGU to generate excess income by reducing its own emissions, either at fossil fuel-fired plants or by using renewables, and selling the right to emit those emissions to another EGU on the market.

Trading provides an EGU with alternatives to direct implementation of emission reduction measures in its own facility when lower-cost emission reduction opportunities exist

⁶⁸ See, e.g., U.S. ENVTL. PROT. AGENCY, CAP AND TRADE: ACID RAIN PROGRAM RESULTS (2002), <http://www3.epa.gov/captrade/documents/ctresults.pdf> (stating that the acid rain emissions trading program created a 9% reduction in harmful sulfur dioxide emissions in 2002 from 2000 and a 41% reduction from 1980 levels. Furthermore the trading program created a 13% reduction in harmful nitrogen oxide emissions in 2002 from 2000, and a 33% decline from 1990 levels); *RGGI Benefits*, REGIONAL GREENHOUSE GAS INITIATIVE (2015), http://www.rggi.org/rggi_benefits (stating that emissions trading under RGGI has avoided 1.3 million short tons of CO₂ through 2013, and is projected to avoid 10.3 million short tons of CO₂ throughout its lifetime).

⁶⁹ See *FACT SHEET: Components*, *supra* note 56.

⁷⁰ See Robert Stavins & Bradley Whitehead, *Market-Based Environmental Policies*, from Marian R. Chertow & Daniel C. Esty, Eds., *Thinking Ecologically, The Next Generation of Environmental Policy*, YALE UNIVERSITY PRESS (1997), available at http://scholar.harvard.edu/files/stavins/files/market_based_environmental_policies.pdf (defining and discussing market-based policy tools in an environmental context).

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elsewhere.⁷¹ The plan gives states the option to generate emissions rate credits, or allowances, based on whether they choose rate- or mass-based emissions goals.⁷² An EGU that exceeds its emissions goals will generate credits or allowances to sell, while an EGU that fails to meet its goals can correct its short-coming by purchasing credits or allowances from states that surpass compliance goals.⁷³ The states must incorporate and define, within their SIPs, the value of an emission credit/allowance.⁷⁴ Although implementing an emissions trading program seems like a logical choice for state compliance, many states and organizations are challenging its legality of under the Clean Power Plan.⁷⁵

III. LEGALITY AND IMPORTANCE OF CO₂ EMISSIONS TRADING FOR STATE COMPLIANCE

Opponents to CO₂ emissions trading first argue that it falls outside the scope of CAA section 111(d). Critics of the plan insist that section 111(d) only authorizes “inside-the-fenceline” approaches to emissions reductions and does not allow “outside-the-fenceline” approaches.⁷⁶ “Inside-the-fenceline” approaches, such as building block one,⁷⁷ are emissions-cutting actions that the

⁷¹ See Clean Power Plan Final Rule, *supra* note 5, at 64735.

⁷² See *id.* at 64734–35.

⁷³ See *id.*

⁷⁴ See *id.* Usually a credit/allowance is equal to one ton of the pollutant emitted, therefore it could be equal to one ton of CO₂ under the Clean Power Plan.

⁷⁵ See, e.g., William W. Buzbee et. al., *The Clean Power Plan: Issues to Watch*, CENTER FOR PROGRESSIVE REFORM at 11, 57–58 (Aug. 2015), http://progressivereform.org/articles/PPP_1506.pdf (acknowledging that emissions trading under the Clean Power Plan will be a legal issue, but arguing in support of an emissions trading program); Nathan Richardson, *A Quick Legal FAQ on EPA's Clean Power Plan*, RESOURCES FOR THE FUTURE (July 14, 2015), <http://www.rff.org/blog/2015/quick-legal-faq-epa-s-clean-power-plan> (stating that the emissions trading is one of the four main legal risks of the Clean Power Plan).

⁷⁶ See Richardson, *supra* note 11.

⁷⁷ For further discussion on the BSER and building block 1 see *supra* notes 27–40.

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actual facilities being regulated, existing power plants, can take.⁷⁸ In contrast, “outside-the-fenceline” approaches include emissions-cutting actions through sources other than existing power plants, including renewables, nuclear, energy efficiency, or by substituting less polluting power generation through emissions trading.⁷⁹ This differentiation between “inside-the-fenceline” and “outside-the-fenceline” approaches is important to opponents of the Clean Power Plan because they suggest the Plan includes “outside-the-fenceline” approaches, and if section 111(d) is found to exclude these measures then they could succeed in having the plan struck down in court. However, all of the compliance measures within the Clean Power Plan are arguably “inside-the-fenceline” because even if measures are implemented through sources other than the actual affected sources, these measures should still result in reducing emissions from the actual affected EGUs. Therefore, the end result of any approach under the Clean Power Plan would succeed as an “inside-the-fenceline” approach. However, for purposes of this Recent Development, the targeted approach is emissions trading.

Focusing on emissions trading, critics argue that section 111(d) does not authorize emissions trading, but other parts of the CAA do, therefore trading under section 111(d) should not be an option.⁸⁰ An example of this can be found within section 112(d)(2), which notes that emission reduction may be achieved “through application of measures, processes, methods, systems or techniques including, but not limited to, measures which”⁸¹ Section 112

⁷⁸ See Richardson, *supra* note 11.

⁷⁹ See *id.*

⁸⁰ See, e.g., Robert R. Nordhaus & Ilan W. Gutherz, *Regulation of CO₂ Emissions From Existing Power Plants Under § 111(d) of the Clean Air Act: Program Design and Statutory Authority*, EVNTL. L. REP. (2014), https://www.eli.org/sites/default/files/docs/article_2014_04_44.10366.pdf (discussing the differences between Section 111(d) of the Clean Air Act and other sections that explicitly allow emissions trading); Richardson, *supra* note 11 (pointing out that section 111(d) does not explicitly allow emissions trading).

⁸¹ See 42 U.S.C. § 7412(d)(2) (2015).

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goes on to describe measures which generally reduce emissions.⁸² Even though emissions trading is not explicitly stated as an option, Section 112 authorizes it by stating that allowable options are not limited to the measures discussed therein, and emissions trading has consistently been proven to reduce emissions overall.⁸³

As discussed above, section 111(d) only discusses creating standards of performance for existing sources to regulate certain pollutants, in this case CO₂, and therefore, does not explicitly allow or suggest any type of trading.⁸⁴ Notably, section 111(d) does not expressly forbid trading either.⁸⁵ Opponents of the Clean Power Plan are attempting to act upon this legal ambiguity. However, under *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*,⁸⁶ if a statute is ambiguous courts defer to the administrative agency's interpretation, as long as its interpretation is reasonable.⁸⁷

Chevron revolutionized the process by which courts defer to administrative agencies when dealing with questions of statutory interpretation.⁸⁸ The issue in *Chevron* was the definition of the term "stationary source" within the Clean Air Act ("CAA").⁸⁹ The CAA required states in nonattainment under the National Ambient Air Quality Standards ("NAAQS") to establish a permitting program regulating "new or modified major stationary sources" of air pollution.⁹⁰ The EPA regulation promulgated to implement this permit requirement allowed states to adopt a plant-wide definition of the term "stationary source."⁹¹ This plant-wide definition was

⁸² *See id.*

⁸³ For further detail, see *supra* note 69 and accompanying text.

⁸⁴ *See generally supra* notes 20–26, *see also* 42 U.S.C. § 7411(d) (2015).

⁸⁵ *See generally* 42 U.S.C. § 7411(d) (2015); *see also* Richardson, *supra* note 11.

⁸⁶ *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984).

⁸⁷ *Id.* at 866 (holding that EPA's definition of the term "source" is reasonable and a permissible construction of the statute because the statute is ambiguous and EPA is the expert on the subject matter).

⁸⁸ *See generally id.*

⁸⁹ *See id.* at 840.

⁹⁰ *See id.*

⁹¹ *See id.*

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known as the “bubble policy” and allowed states to treat all pollution emitting structures within the same facility as one “stationary source.”⁹² The question at issue was whether EPA’s “bubble policy” definition was based on a reasonable construction of the CAA’s statutory term “stationary source.”⁹³ The Supreme Court held in favor of the EPA, deciding that the EPA’s definition was a permissible construction of the statute because it furthered the goal of the CAA which sought to promote progress in reducing air pollution along with economic growth.⁹⁴ *Chevron* created a test that whenever Congress has not directly spoken to the precise legal question at issue, the statute is ambiguous. The court will defer to the agency’s interpretation as long as it is a permissible construction of the statute.⁹⁵

Applying *Chevron* to the CAA, Congress has not spoken to the precise legal question of emissions trading within section 111(d), and the EPA’s interpretation that section 111(d) allows CO₂ emissions trading should be found to be a reasonable, permissible construction of the statute. Similar to the court’s conclusion in *Chevron*, allowing emissions trading under section 111(d) will further the CAA’s overall goal of reducing air pollution while spurring economic growth. The legality of emissions trading can be supported through several long-standing CAA regulations incorporating trading, and the legal precedents upholding those CAA regulations. These regulations include: (A) the Title IV Acid Rain Program; and (B) the EPA’s pollution transport rulemakings. The EPA’s pollution transport rulemakings under subsection (B) include: (1) the call for nitrogen oxide state implementation plans, and (2) the Cross-State Air Pollution Rule.

A. *Title IV Acid Rain Program*

The Acid Rain Program provides strong legislative support for upholding emissions trading under the Clean Power Plan. In

⁹² *See id.*

⁹³ *See id.*

⁹⁴ *See id.* at 866.

⁹⁵ *Id.*

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response to acid rain studies⁹⁶ and improved emissions modeling⁹⁷, the EPA established the Acid Rain Program under Title IV of the 1990 Clean Air Act Amendments.⁹⁸ The Acid Rain Program was the first national cap and trade program in the country, and it introduced a system of allowance trading that uses market-based incentives to reduce nitrogen oxide (“NO_x”) and sulfur dioxide (“SO₂”) pollution.⁹⁹ The program allocated each utility a number of emissions allowances in proportion to their historical percentages of total emissions, with the total number of allowances limited to the capped levels.¹⁰⁰ In addition to the specifics of the program under Title IV, Title V implements the provisions of the Acid Rain Program through a permitting process.¹⁰¹ Similar to the Clean Power Plan, each permit application must include a compliance plan for the affected source that details how that source will meet the Title IV requirements.¹⁰² Furthermore, the utilities under the Acid Rain Program have the flexibility to choose among several options to reduce SO₂ and NO_x emissions, such as adding emissions controls, replacing existing controls with more advanced technologies, optimizing existing controls, switching fuels, using banked allowances, or buying allowances from the market.¹⁰³

⁹⁶ See generally CAP AND TRADE: ACID RAIN PROGRAM RESULTS, *supra* note 68. (discussing that the studies of acid rain and its impacts on human health and the environment led to the CAA amendments to address the acid rain caused by emissions of sulfur dioxide and nitrogen oxides).

⁹⁷ As the level of technology increased, experts could study and record more accurate levels of pollutants in the atmosphere and the harm they were causing by using improved computer modeling.

⁹⁸ See generally 42 U.S.C. § 7412 (2015) (the main section amended in the 1990 amendments); see also U.S. ENVTL. PROT. AGENCY, *Acid Rain Program*, (Sept. 25, 2015), <http://www2.epa.gov/airmarkets/acid-rain-program>.

⁹⁹ *Id.*

¹⁰⁰ Richard N. L. Andrews, *State Environmental Policy Innovations: North Carolina's Clean Smokestacks Act*, 43 ENVTL. L. 881, 884 (2013).

¹⁰¹ See 42 U.S.C. § 7412 (2015); see also Clean Power Plan Final Rule, *supra* note 5, at 64696.

¹⁰² See *id.*

¹⁰³ U.S. ENVTL. PROT. AGENCY, *Acid Rain Program Market Based Mechanisms*, (2015), <http://www2.epa.gov/airmarkets/acid-rain-program-market-based-mechanisms>.

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Therefore, the only clear distinction between the Acid Rain Program and the Clean Power Plan is the pollutant being regulated, NO_x and SO₂ versus CO₂, respectively.

B. *Pollution Transport Rulemakings*

In addition to the Acid Rain Program, the EPA's pollution transport rulemakings also provide legislative support for upholding emissions trading under the Clean Power Plan. Section 110 of the CAA applies to SIPs for NAAQS.¹⁰⁴ Section 110's "Good Neighbor Provision" requires SIPs to prohibit emissions that contribute significantly to nonattainment or interferes with other states' NAAQS attainment.¹⁰⁵ Similar to the Clean Power Plan, section 110 also provides that the EPA must issue a federal implementation plan, when a SIP is denied, but in this case it is to prohibit the "Good Neighbor Provision's" emissions "at any time" within the next two years.¹⁰⁶ Two major EPA transport rulemakings support emissions trading: (1) the NO_x SIP Call, and (2) the Cross-State Air Pollution Rule.

1. *NO_x State Implementation Plan (SIP) Call*

In 1998, the EPA issued the NO_x SIP Call,¹⁰⁷ which required several states upwind of affected states to reduce emissions of NO_x that would drift and impact downwind states with ozone problems.¹⁰⁸ The EPA set emission reduction requirements based on reductions achievable through "highly cost-effective" measures, similar to the EPA setting building blocks under the BSER of the Clean Power Plan.¹⁰⁹ Next, the EPA determined that a uniform emission rate on large EGUs along with a cap-and-trade program

¹⁰⁴ 42 U.S.C. § 7410 (2015).

¹⁰⁵ See Clean Power Plan Final Rule, *supra* note 5, at 64696.

¹⁰⁶ See *id.*

¹⁰⁷ Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 57354 (Oct. 27, 1998). This is the rule known as the NO_x SIP Call.

¹⁰⁸ See Clean Power Plan Final Rule, *supra* note 5, at 64696.

¹⁰⁹ See *id.*

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was an option available as a “highly cost-effective” measure.¹¹⁰ With that determination, the EPA created the NO_x Budget Trading Program.¹¹¹ The D.C. Circuit in *Michigan v. EPA*¹¹² upheld the NO_x SIP Call’s trading program, creating yet another legal precedent supporting emissions trading.¹¹³

Michigan v. EPA addressed the EPA’s promulgation of NAAQS for air pollutants, which states must implement, maintain, and enforce through SIPs.¹¹⁴ The EPA issued a final rule, the NO_x SIP Call, which called for states to revise their SIPs to mitigate interstate transport of the ozone precursor, NO_x, because the emissions from some states were negatively affecting other states that were downwind of the emissions.¹¹⁵ Several upwind states petitioned the rule.¹¹⁶ The Supreme Court held in favor of the petitioning states because it found that the EPA failed to demonstrate that the states contributed significantly to the nonattainment of acceptable NO_x emissions in downwind states.¹¹⁷ However, the Court upheld the provisions of the NO_x SIP Call, such as its emissions trading program, because the EPA’s scheme for uniform controls regarding NO_x emissions were not arbitrary and capricious.¹¹⁸ Thus, the holding of *Michigan v. EPA* supports upholding emissions trading under the Clean Power Plan because the EPA’s intentions behind emissions trading advance the CAA’s goals of reducing air pollution, and those intentions do not meet the standard of arbitrary and capricious.

¹¹⁰ *See id.*

¹¹¹ *Id.*

¹¹² 213 F.3d 663 (D.C. Cir. 2000).

¹¹³ *Id.* at 688 (holding that EPA’s NO_x budget trading program reasonably established reduction levels and leaves the control measure selection decision to the states).

¹¹⁴ *See id.* at 669.

¹¹⁵ *See id.*

¹¹⁶ *See id.*

¹¹⁷ *See id.* at 688.

¹¹⁸ *See id.*

2. *Cross-State Air Pollution Rule*

Similar to the NO_x SIP Call, the Cross-State Air Pollution Rule reinforces the legality of emissions trading under the Clean Power Plan. Prior to the Cross-State Air Pollution Rule (“CSAPR”), the EPA created the Clean Air Interstate Rule (“CAIR”) in 2005.¹¹⁹ CAIR was very similar to the NO_x SIP Call, except it required upwind states to reduce NO_x and SO₂ emissions to protect downwind states from negative impacts.¹²⁰ Emission reduction requirements were determined based on known cost-effective controls for EGUs.¹²¹ As with the NO_x SIP Call, the EPA also established a cap-and-trade program for sources of NO_x and SO₂ in states that chose to participate in emissions trading within their SIPs and for states ultimately subject to a federal implementation plan.¹²² However, the D.C. Circuit remanded CAIR in *North Carolina v. EPA*¹²³ because it found the cost-effective standard of the trading program to be unlawful.¹²⁴ *North Carolina v. EPA* examined CAIR’s failure to describe how its trading program would achieve the goals of not contributing to the nonattainment of downwind states when each upwind state’s contribution to another state was unknown.¹²⁵ Although the case was remanded, the Court kept CAIR in place until the EPA could develop an acceptable substitute because the concept behind the program was legal, just not the proposed structure of the trading program.¹²⁶

As a result of this ruling, the EPA introduced CSAPR in 2011 as the substitute for CAIR.¹²⁷ CSAPR had the same purpose as CAIR, and simply fixed the EPA’s original application of the cost-

¹¹⁹ See Clean Power Plan Final Rule, *supra* note 5, at 64696.

¹²⁰ See *id.*

¹²¹ See *id.*

¹²² *Id.*

¹²³ 531 F.3d 896 (D.C. Cir. 2008).

¹²⁴ *Id.* at 930 (holding that CAIR’s trading program was unlawful because it did not connect states’ emissions reductions to any measure of their own significant contributions).

¹²⁵ See *id.* at 901–02.

¹²⁶ See *id.*

¹²⁷ See Clean Power Plan Final Rule, *supra* note 5, at 64696–97.

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effective standard. Under CSAPR, the EPA determined the emission reduction requirements based on reductions available at certain cost thresholds by EGUs in each state.¹²⁸ The EPA also issued federal implementation plans that subjected states to emissions trading programs to achieve reductions.¹²⁹ The Supreme Court in *EPA v. EME Homer City Generation, L.P.*¹³⁰ upheld the EPA's application of cost to set emission reduction requirements, as well as the EPA's authority to issue federal implementation plans with emissions trading programs.¹³¹ The Court analyzed the factors the EPA must consider when determining an upwind state's contribution to the nonattainment of downwind states.¹³² The Court of Appeals had held that the CAA required the EPA to only consider each upwind state's physically proportionate responsibility for each downwind state's air quality problem without consideration of cost.¹³³ The Supreme Court disagreed and upheld the EPA's consideration of cost in emissions trading as a permissible construction of the statute.¹³⁴ This holding created yet another legal precedent supporting emissions trading under the Clean Power Plan.

In conclusion, CO₂ emissions trading is a legal and important aspect of the Clean Power Plan. The legality of emissions trading under the Clean Power Plan is legislatively supported by the Title IV Acid Rain Program, the NO_x SIP Call, and the Cross-State Air Pollution Rule. Furthermore, the legality of emissions trading under the Clean Power Plan is supported by a plethora of case law, including *Chevron, Michigan v. EPA*, and *EME Homer*. Therefore,

¹²⁸ *See id.*

¹²⁹ *See id.*

¹³⁰ 134 S. Ct. 1584 (2014).

¹³¹ *Id.* at 1610 (holding that the Good Neighbor Provision of the CAA does not require EPA to disregard costs, and that EPA's cost-effective allocation of emissions reductions among upwind states through federal implementation plans with trading programs is a permissible, workable, and equitable interpretation of the CAA).

¹³² *See id.* at 1593.

¹³³ *See id.*

¹³⁴ *See id.* at 1610.

the Clean Power Plan should be upheld with respect to the legality of emissions trading.

IV. EMISSIONS TRADING WITHOUT STATE LEGISLATION: A LOOK AT NORTH CAROLINA

Opponents to CO₂ emissions trading argue that states cannot implement a CO₂ emissions trading program without obtaining authorization by each state's general assembly.¹³⁵ In particular, opponents allege that state general assemblies must specifically authorize the use of emissions trading in Clean Power Plan SIPs.¹³⁶ However, unless a state has already passed legislation explicitly prohibiting a CO₂ emissions trading program, there is no legal basis to deny a state from including emissions trading in their SIP under the Clean Power Plan. This is because, as discussed above, several statutes, regulations, and cases exist that support the legality of emissions trading programs.¹³⁷ An analysis of North Carolina's legislative history provides a foundation for why North Carolina, and other states, can legally establish interstate trading programs for CO₂ emissions without authorization from their general assemblies.

Interstate trading of CO₂ emissions will likely be legal in North Carolina without authorization from the General Assembly. Currently, there is no North Carolina statute explicitly prohibiting

¹³⁵ See, e.g., Craig Gannett, *Implementing Section 111(D) of the Clean Air Act: The Pathway to Regional Cap-And-Trade Programs?*, ROCKY MOUNTAIN MIN. L. FOUND. SPECIAL INST. ON CLIMATE CHANGE L. & REG. 12 (Jan. 23, 2015), <http://www.dwt.com/files/Publication/564b041d-5bbe-4167-b8e6-c17233b67198/Presentation/PublicationAttachment/85c4e92a-492b-4de7-9144-c1bfd55a6f0b/Gannett%20Regional%20Cap%20%20Trade%20Paper%201-15.pdf> (suggesting the need for state legislation authorizing the participation in a regional emissions trading organization); *Multistate Coordination Resources for Clean Power Plan Compliance: Sample Documents for Consideration*, THE NAT'L ASS'N. OF REG. UTIL. COMMISSIONERS 19 (June 2015), http://www.naruc.org/Grants/Documents/Multistate%2011d-Coordination-FINAL%20_June2015.pdf (stating that a common theme among opposing states is that authorizing state legislation is necessary for state plans, or parts thereof, such as an emissions trading program).

¹³⁶ *Id.*

¹³⁷ For more detail see *supra* notes 97–136.

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the implementation of a CO₂ emissions trading program. In fact, there are several provisions within North Carolina's general statutes and administrative code that support the legality of implementing a CO₂ emissions trading program.¹³⁸ As discussed below, the legality of a trading system is supported through: (A) North Carolina statutes and regulations on air quality standards and classifications, and (B) existing state restrictions on trading for air quality. Subsection (B) is further divided into: (1) The Clean Air Act's acid rain cap and trade program, and (2) the North Carolina Clean Smokestacks Act.¹³⁹

A. *North Carolina statutes and regulations on air quality*

In adopting state law to implement the CAA, the North Carolina General Assembly directed the Environmental Management Commission, “[t]o develop and adopt standards and plans necessary to implement requirements of the federal Clean Air Act and implement[] regulations adopted by the United States Environmental Protection Agency.”¹⁴⁰ The purpose of the EPA's Clean Power Plan is to enforce new emissions standards under section 111(d) of the federal CAA. Therefore, the North Carolina Environmental Management Commission, as part of the North Carolina Department of Environment Quality (“DEQ”), has the authority, and is required to adopt a SIP to meet the emissions requirements laid out in the final federal Clean Power Plan. Since the federal rule presents a trading option,¹⁴¹ The DEQ should be able to legally implement a trading system without authorization from the North Carolina General Assembly.

This is not the first time DEQ has acted to implement an EPA policy without authorization from the N.C. General Assembly. In adopting state law to implement the CAA NAAQS, the North Carolina General Assembly also directed the Environmental

¹³⁸ See, e.g., Improve Air Quality/Electric Utilities, N.C. Sess. Laws 2002–4, S.B. 1078 § 1(i) [hereinafter The Clean Smokestacks Act]; N.C. GEN. STAT. § 143-215.107(a)(10) (2014); 15A N.C. ADMIN. CODE 2D.2408(a) (2015).

¹³⁹ See The Clean Smokestacks Act, *supra* note 138.

¹⁴⁰ N.C. GEN. STAT. § 143-215.107(a)(10) (2014).

¹⁴¹ See *generally* Clean Power Plan Final Rule, *supra* note 5.

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Management Commission to develop and adopt a program of incentives to promote voluntary emissions reductions, suggesting an emissions trading program.¹⁴² The Clean Power Plan offers an emissions banking, trading, and credit program as a valid compliance option.¹⁴³ Nothing in current state law prevents North Carolina from implementing a trading program, therefore, DEQ will be authorized to implement a trading program for CO₂ emissions credits into North Carolina's SIP under the Clean Power Plan.

Though a trading system is not necessarily required by the Clean Power Plan, a compliance plan is necessary, and a trading program is a valid compliance option for the plan.¹⁴⁴ In addition, even though the initial reduction of emissions will not be voluntary, some EGUs may choose to voluntarily reduce emissions further in order to receive allowances and participate in a trading program.¹⁴⁵ By doing this, EGUs can increase revenue while reducing regulatory costs.¹⁴⁶

Regulations within North Carolina's Administrative Code also support transfers of emissions allowances for NO_x, SO₂, and ozone season NO_x to comply with legislation enforcing the standards required under Title IV of the Clean Air Act. These regulations apply to all North Carolina CAIR NO_x units, CAIR SO₂ units, and CAIR NO_x ozone season units that are subject to the NO_x, SO₂, and NO_x ozone season trading programs, respectively, unless they

¹⁴² N.C. GEN. STAT. § 143-215.107(a)(12) (2014) (directing the Environmental Management Commission "[t]o develop and adopt a program of incentives to promote voluntary reductions of emissions of air contaminants, including, but not limited to, emissions banking and trading and credit for voluntary early reduction of emissions").

¹⁴³ See Clean Power Plan Final Rule, supra note 5, at 64733.

¹⁴⁴ See *id.*

¹⁴⁵ See *id.*

¹⁴⁶ See Jonas Monast, Tim Profeta, Jeremy Tarr & Brian Murray, *Enhancing Compliance Flexibility under the Clean Power Plan: A Common Elements Approach to Capturing Low-Cost Emissions Reductions*, Nicholas Institute for Environmental Policy Solutions 1 (March 2015), https://nicholasinstitute.duke.edu/sites/default/files/publications/ni_pb_15-01.pdf.

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fall into the category of “investor-owned public utilities” regulated by the Clean Smokestacks Act.¹⁴⁷

In implementing state legislation, North Carolina regulations provide that the EPA shall administer the allowance tracking program.¹⁴⁸ Furthermore, the regulations provide that the owners and operators of each emitting source shall have a compliance account in the EPA administered tracking system that satisfies the NO_x, SO₂, and ozone season NO_x requirements laid out in the Code of Federal Regulations.¹⁴⁹ Lastly, the regulations provide that any person may apply to open a general account to hold and transfer allowances and any person who has a compliance account or general account may bank allowances for future use or transfer.¹⁵⁰ In simpler terms, these regulations state that North Carolina sources emitting NO_x, SO₂, and ozone season NO_x can have accounts, administered by the EPA, in which they can buy, sell, bank, and transfer emission allowances. Therefore, any unit that is not required to transfer emissions allowances to the State is allowed to transfer emissions as per the regulations discussed above.

B. *Existing State Restrictions on Trading for Air Quality*

In addition to North Carolina statutes and regulations on air quality, existing North Carolina restrictions on trading for air quality also support emissions trading under the Clean Power Plan without authorization from the North Carolina General Assembly. Some state legislation placed certain limits on trading by requiring actual emission reductions through emission controls. The legality of emissions trading under the Clean Power Plan is supported through existing state restrictions on trading for air quality sparked from: (1) the Acid Rain Cap & Trade Program, and (2) The North Carolina Clean Smokestacks Act.

¹⁴⁷ See 15A N.C. ADMIN CODE 2D.2401(b) (2015); see also N.C. GEN. STAT. § 143-215.107D(i) (2014).

¹⁴⁸ 15A N.C. ADMIN. CODE 2D.2408(a) (2015).

¹⁴⁹ *Id.* at 2D.2408(b)(1)–(3) (2015).

¹⁵⁰ *Id.* at 2D.2408(c)–(f) (2015).

1. *Acid Rain Cap & Trade Program*

As discussed above, the Acid Rain Program was established under Title IV of the 1990 CAA Amendments.¹⁵¹ The Acid Rain Program's ("ARP") cap and trade system allows EGUs to buy and sell allowances to meet compliance.¹⁵² However, during at least the first five years of the ARP, North Carolina was among the major net importers of emissions allowances, continuing to pollute while purchasing allowances rather than cleaning up emissions to sell allowances to others.¹⁵³ This continued until 2002, when North Carolina passed the Clean Smokestacks Act. Therefore, the Acid Rain Program establishes precedent for emissions trading within North Carolina without authorization from the General Assembly.

2. *The North Carolina Clean Smokestacks Act*

North Carolina law does not *per se* prohibit interstate emissions allowance trading. The Clean Smokestacks Act is the single example of North Carolina legislation explicitly prohibiting one form of interstate emissions allowance trading due to a range of factors.¹⁵⁴

North Carolina's air quality was an increasingly significant concern by the late 1990s, with more than half of the electric power generated by forty-five coal-fired units, nearly all built in the 1970s or earlier.¹⁵⁵ In 1999, North Carolina experienced sixty-eight unhealthy air days, ranking it fifth in the country.¹⁵⁶ Furthermore, smog in North Carolina during April through October 1997 was estimated to have caused 19,000 respiratory-related hospital admissions, 5,700 respiratory visits to emergency rooms, and 240,000 asthma attacks.¹⁵⁷

¹⁵¹ See *supra* notes 39–44 and accompanying text.

¹⁵² See *id.*

¹⁵³ See Richard N. L. Andrews, *State Environmental Policy Innovations: North Carolina's Clean Smokestacks Act*, 43 ENVTL. L. 881, 885 (2013).

¹⁵⁴ See generally The Clean Smokestacks Act, *supra* note 138 (prohibiting emissions trading to certain entities).

¹⁵⁵ See Andrews, *supra* note 153, at 887.

¹⁵⁶ See *id.*

¹⁵⁷ See *id.*

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During public hearings in 2000, regarding rules for complying with the EPA's NO_x SIP Call, the public of North Carolina showed vigorous support for state action, resulting in state legislators proposing language for more far reaching pollution reduction.¹⁵⁸ The original proposal identified the pre-1977 power plants as the dominant sources of SO₂ and mercury, and nearly half the NO_x emissions in the state.¹⁵⁹ The plan also documented proven emission control technologies that could dramatically reduce these emissions.¹⁶⁰ The Senate examined the first version of the Clean Smokestacks bill on April 1, 2001.¹⁶¹ After many debates and several amendments to the bill, Congress passed the final version of the Clean Smokestacks Act in June of 2002.¹⁶²

The Clean Smokestacks Act requires power companies within North Carolina to reduce their smog- and haze-forming emissions by approximately three-fourths over the next decade.¹⁶³ Under the act, coal-fired power plants must achieve a 77-percent cut in NO_x emissions by 2009 and a 73-percent cut in SO₂ emissions by 2013.¹⁶⁴ Therefore, the Clean Smokestacks Act had the same, if not stricter, goals as the Acid Rain Program. The significant difference is that, under the Clean Smokestacks Act, North Carolina's two largest investor-owned utility companies, Duke Power Company and Progress Energy Corporation (now together Duke Energy), must achieve these emissions cuts through actual reductions at their 14 power plants within the state—not by buying or trading emissions allowances from utilities in other states, as allowed under federal regulations.¹⁶⁵ The State wanted emissions reductions over trading to ensure that utilities in neighboring states did not

¹⁵⁸ *See id.* at 888.

¹⁵⁹ *See id.*

¹⁶⁰ *See id.*

¹⁶¹ *See Andrews, supra* note 153 at 888.

¹⁶² *See id.* at 891.

¹⁶³ *See* William G. Ross, Jr., *North Carolina's Clean Smokestacks Act*, N.C. DEP'T. OF ENV'T. & NAT. RESOURCES (2009), <http://www.ncair.org/news/leg/cleanstacks.shtml>.

¹⁶⁴ *See id.*

¹⁶⁵ *See id.*

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negate the gains achieved in North Carolina by purchasing the rights to increase or avoid controlling their own emissions.¹⁶⁶

The Act did not allow the utilities to sell emissions allowances, but instead required the two utilities to formally sign over their emissions allowances to the State.¹⁶⁷ “The State Treasurer shall hold emissions allowances that are transferred to the State . . . in trust for the people of this State and shall sell, trade, transfer, or otherwise dispose of the emissions allowances only as the General Assembly shall provide by law.”¹⁶⁸ So far, the General Assembly has remained silent on the State’s uses of these emissions allowances. Therefore, the Clean Smokestacks Act became legislation that explicitly prohibited North Carolina’s participation in a trading market for NO_x and SO₂ emissions allowances.

Currently, North Carolinians are breathing cleaner air today than any time in decades.¹⁶⁹ Harmful emissions from coal-fired power plants operating in North Carolina have been drastically cut following the passage of the NC Clean Smokestacks Act in 2002.¹⁷⁰ Equipped with 21st century control technology, North Carolina’s power plants are among the most efficient and least polluting coal fleet in the nation.¹⁷¹ The urgency to reduce in-state emissions is not as prevalent as before the Clean Smokestacks Act was passed. Additionally, it is not likely that North Carolina would address CO₂ the same way it did SO₂ and NO_x, because CO₂ poses a global threat while the other two pollutants generally cause problems on a regional basis.¹⁷² Furthermore, North Carolina’s participation in a CO₂ trading system could potentially be a cost-efficient option to help further reduce CO₂ emissions. Therefore, there is no reason to prevent the implementation of an emissions

¹⁶⁶ *See id.*

¹⁶⁷ *See Andrews, supra* note 153 at 11.

¹⁶⁸ N.C. GEN. STAT. § 143-215.107D(i) (2014).

¹⁶⁹ *Air Quality Trends in North Carolina*, N.C. DIVISION OF AIR QUALITY (2015), available at http://www.ncair.org/Air_Quality_Trends_in_North_Carolina.pdf.

¹⁷⁰ *See id.*

¹⁷¹ *See id.*

¹⁷² *See Hoong N. Young, An Analysis of a Global CO₂ Emissions Trading Program*, 14 J. LAND USE & ENVTL. L. 125, 145 (1996).

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allowance trading system in North Carolina. In conclusion, a CO₂ emissions trading program should be legal in North Carolina, unless the North Carolina General Assembly were to pass similar legislation applying the Clean Smokestacks Act to CO₂ emissions.

This North Carolina case study illustrates that precedent exists for states engaging in emissions trading programs without explicit authorization from their general assemblies. As long as states do not have existing legislation similar to North Carolina's Clean Smokestacks Act they will not face legal issues by including an emissions trading program within their Clean Power Plan SIP. Simplifying matters further, even if states had legislation similar to North Carolina's Clean Smokestacks Act, they would only bar a Clean Power Plan trading program if they explicitly prohibited CO₂ emissions trading.

V. CONCLUSION

The Clean Power Plan is an expansive regulation taking historic and important action on climate change, one of the greatest environmental and public health challenges we face.¹⁷³ This costly plan affects the entire electricity sector across the United States as a whole, yet will yield billions of dollars in significant benefits over time.¹⁷⁴ Emissions trading can significantly lower state compliance costs, while at the same time promoting cheaper cleaner energy alternatives to traditional burning of fossil fuels.¹⁷⁵

Among the many legal challenges the Clean Power Plan will face in court, the legality of emissions trading seems to be one of

¹⁷³ See generally *FACT SHEET: Overview of the Clean Power Plan*, U.S. ENVTL. PROT. AGENCY, <http://www2.epa.gov/cleanpowerplan/fact-sheet-overview-clean-power-plan> (last updated Aug. 13, 2015) (discussing how the Clean Power Plan is the first of its kind when it concerns regulations taking action against climate change).

¹⁷⁴ See generally *FACT SHEET: Clean Power Plan Benefits of a Cleaner, More Efficient Power Sector*, U.S. ENVTL. PROT. AGENCY, <http://www2.epa.gov/cleanpowerplan/fact-sheet-clean-power-plan-benefits-cleaner-more-efficient-power-sector> (last updated Aug. 13, 2015) (discussing the monetary value of the health and climate benefits realized by the Clean Power Plan by shifting to cleaner energy).

¹⁷⁵ See *id.*

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the most unreasonable. Courts should not find emissions trading under the plan to be illegal on the basis of ambiguity and lack of explicit approval in CAA section 111(d). Furthermore, emissions trading is supported by several regulations and other legislation that have all been upheld by the courts; several by the U.S. Supreme Court. Lastly, state general assembly authorization should not be required for inclusion of emissions trading within Clean Power Plan SIPs. Analysis of North Carolina's legislative history reveals that it is possible for states to engage in emissions trading without explicit authorization by state legislatures. Emissions trading is a legal, cost-efficient method of controlling certain types of air pollution, and there is no reason it should be deemed illegal when it comes to CO₂.