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Implementing a Carbon Tax in Florida Under the Clean Power Plan: Policy Considerations

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IMPLEMENTING A CARBON TAX IN FLORIDA UNDER THE CLEAN POWER PLAN: POLICY CONSIDERATIONS[*]

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I. INTRODUCTION

On June 2, 2014, the United States Environmental Protection Agency (EPA) announced the Clean Power Plan (CPP), an administrative rulemaking with the goal of reducing greenhouse gas (GHG) emissions from stationary electrical generating units (EGUs).[1] The United States has made progress in reducing greenhouse gas emissions (10% below 2005 levels)[2] but is still far from President Obama's earlier pledge to reduce GHG emissions to 17% below 2005 levels by 2020.[3] However, by implementing the CPP, the United States should

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1. Carbon Pollution Emissions Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34,830 (June 18, 2014) [hereinafter Emissions Guidelines].

2. JAMES E. MCCARTHY ET AL., CONG. RESEARCH SERV., R43572, EPA'S PROPOSED GREENHOUSE GAS REGULATIONS FOR EXISTING POWER PLANTS: FREQUENTLY ASKED QUESTIONS 3 (2014) [hereinafter EPA FAQ].

3. EXEC. OFFICE OF THE PRESIDENT, THE PRESIDENT'S CLIMATE ACTION PLAN (2013), *available at* http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf. The President modified these goals in a recent agreement with China: the United States will decrease emissions by 26% to 28% of 2005 levels, and China will reach peak emissions levels in 2030 and generate 20% of its electricity from solar and wind. Mark Landler, *U.S. and China Reach Climate Accord After Months of Talks*, N.Y. TIMES (Nov. 11, 2014), http://www.nytimes.com/2014/11/12/world/asia/china-us-xi-obama-apec.html?_r=0.

surpass that goal. CPP's end goal is to reduce emissions by 26% to 30% of 2005 levels by 2030.[4] The EPA has economically quantified the public health and environmental benefits of the projected emissions reductions to be between $23 billion and $59 billion, with a 3% discount rate.[5] Additionally, the economic benefits of the rule should amount to $30 billion in 2030.[6]

However, the EPA faces hurdles ahead in meeting its goals, including delegating the implementation of the CPP to states, some of which have expressed hostility to GHG regulation.[7] Florida and other states should consider implementing a carbon tax to meet their goals under the CPP. As I argue later in this Note, the use of a carbon tax takes advantage of the flexibility the EPA has afforded states through the CPP. Additionally, a carbon tax may be the only economically efficient method Florida has to reduce emissions in light of recent decisions regarding renewable energy incentives and energy efficiency goals.

In 2007, the city of Boulder, Colorado became the first entity within the United States to institute a carbon tax.[8] But, Boulder's carbon tax is not considered to be a pure tax because it amounts to a surcharge on electricity coming from the coal plant that powers most of Boulder.[9] One of the best models of a carbon tax is that of British Columbia (B.C.), originally passed in 2008.[10] B.C.'s carbon tax is levied at the point of importation, purchase, or final use of the fuel itself,[11] as opposed to being levied on the purchase of fuel-produced electricity. Under the tax, B.C.'s fossil fuel use has dropped by 15.1%, and its goal is to reduce emissions by 33% of 2007 levels by 2020.[12] And from 2008 to 2010, B.C.'s per capita GHG emissions declined by 9.9%.[13] If B.C.'s emissions reductions are indicative of anything, it is that a carbon tax can reduce emissions without halting growth.

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4. Emissions Guidelines, *supra* note 1, at 34,839.

5. *Id.*; EPA FAQ, *supra* note 2, at 18.

6. Emissions Guidelines, *supra* note 1, at 34,839; EPA FAQ, *supra* note 2, at 18.

7. *See generally Climate Change: State Policy Update 2011*, NAT'L CONF. ST. LEGISLATURES, http://www.ncsl.org/research/environment-and-natural-resources/climate-change-state-policy-update-2011.aspx#resolutions (last updated Aug. 2011) (summarizing various state responses, whether positive or negative, to the prospect of EPA-mandated GHG regulations).

8. *See* ROBERT HENSON, THE THINKING PERSON'S GUIDE TO CLIMATE CHANGE 384 (2014).

9. *See* BOULDER, COLO., MUN. CODE ch. 3-12-1 to -7 (2012); NEHA BHATT & MICHAEL RYAN, CARBON ENERGY TAX, *available at* http://www.smartgrowthamerica.org/documents/Boulder-Carbon-Tax.pdf.

10. Carbon Tax Act, S.B.C. 2008, c. 40 (Can.).

11. *Id.* at c. 40, pt. 3.

12. SUSTAINABLE PROSPERITY, BRITISH COLUMBIA'S CARBON TAX SHIFT: THE FIRST FOUR YEARS 5, 7 (2012), *available at* http://www.sustainableprosperity.ca/sites/default/files/publications/files/British%20Columbia's%20Carbon%20Tax%20Shift.pdf.

13. *Id.* at 12.

Reducing GHG emissions through a carbon tax is not a new concept. Ten countries have implemented carbon taxes to some degree, and two additional carbon taxes have recently been proposed.[14] And multiple previous EPA administrators have advocated for a carbon tax in the past.[15] In this Note, I argue that the CPP and the Clean Air Act (CAA) both allow for states to reach their emission goals in part by implementing a carbon tax. I also address some issues Florida may face in implementing a carbon tax and how those concerns should be ameliorated. Additionally, I argue why a carbon tax would be generally effective at reducing GHG emissions and why a carbon tax makes sense as a matter of policy within the scheme set up for states under the CPP. While other papers argue for implementing a carbon tax in the states,[16] this is the first paper to argue why it also would be compatible under the CPP.

II. THE PATH TO THE CLEAN POWER PLAN

The proposed rule for GHGs has a contested history, starting with the 2007 landmark case: *Massachusetts v. EPA*.[17] In *Massachusetts v. EPA*, states and environmental organizations sought judicial review of the EPA's denial of a petition to issue regulations limiting the emissions of four GHGs—including carbon dioxide (CO_2)—from mobile sources.[18] The Court held that the EPA is required to issue the regulations when it determines that an air pollutant causes or contributes to air pollution that may reasonably be anticipated to endanger public health or welfare (i.e., when the EPA makes an endangerment finding).[19]

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14. *See* JENNY SUMNER ET AL., CARBON TAXES: A REVIEW OF EXPERIENCE AND POLICY DESIGN CONSIDERATIONS 8 (2009), *available at* http://www.nrel.gov/docs/fy10osti/47312.pdf. The total number was eleven, but Australia both enacted and then repealed a carbon tax in two years. Rob Taylor & Rhiannon Hoyle, *Australia Becomes First Developed Nation to Repeal Carbon Tax*, WALL ST. J. (last updated July 17, 2014, 5:51 AM), http://online.wsj.com/articles/australia-repeals-carbon-tax-1405560964.

15. HENSON, *supra* note 8, at 386.

16. *See, e.g.*, SAMUEL D. EISENBERG ET AL., BROOKINGS, A STATE TAX APPROACH TO REGULATING GREENHOUSE GASES UNDER THE CLEAN AIR ACT (2014), *available at* https://www.law.stanford.edu/sites/default/files/publication/622195/doc/slspublic/Eisenberg%20Wara%20et%20al%20A%20State%20Tax%20Approach%2022%20%May%2014.pdf; Joseph Whealdon, Validation for Taxation: An Argument for the Implementation of a Carbon Tax Under Section 111(D) of the Clean Air Act (May 2, 2014) (unpublished manuscript), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2440737.

17. 549 U.S. 497 (2007).

18. *Id.* at 504-06.

19. *Id.* at 532-33 (citing 42 U.S.C. § 7521(a)(1) (2012)); *see also* Nathan D. Riccardi, *Necessarily Hypocritical: The Legal Viability of EPA's Regulation of Stationary Source Greenhouse Gas Emissions Under the Clean Air Act*, 39 B.C. ENVTL. AFF. L. REV. 213, 214 (2012) (arguing that the EPA had not only the authority but also the obligation to regulate greenhouse gases under the CAA).

The first domino to fall towards the regulation of GHGs was the endangerment finding made by the EPA in 2009.[20] The EPA found that six GHGs, including CO_2, threaten public health and welfare.[21] Having made the endangerment finding, the EPA then issued protective regulations, limiting the emissions of four GHGs from new automobiles.[22] But the EPA took the position—even before issuing the final motor vehicle regulations—that the legal framework existed for regulating stationary sources of GHGs under the CAA's Prevention of Significant Deterioration (PSD) and Title V provisions.[23]

The current state of regulation of GHGs under PSD is as follows. But the EPA issued several rules and survived multiple lawsuits to reach this point.[24] Typically, regional areas will be classified as either in attainment, in nonattainment, or unclassified, depending on

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20. *See* Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009).

21. The other greenhouse gases include methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). *Id.* at 66,497, 66,502. The rule also discussed the legal framework justifying the endangerment finding:

> First, the Administrator is required to protect public health and welfare, but she is not asked to wait until harm has occurred. . . . Second, the Administrator is to exercise judgment by weighing risks, assessing potential harms, and making reasonable projections of future trends and possibilities.
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> . . . Third, . . . the Administrator is to consider the cumulative impact of sources of a pollutant in assessing the risks from air pollution, and is not to look only at the risks attributable to a single source or class of sources. Fourth, the Administrator is to consider the risks to all parts of our population, including those who are at greater risk for reasons such as increased susceptibility to adverse health effects.

Id. at 66,505-06.

22. Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25,324, 25,669 (May 7, 2010) [hereinafter Mobile GHG Rule]. The new limitations, announced under President Obama's National Fuel Efficiency Policy, will lower emissions by setting minimum fuel efficiency standards, which should reach 35.5 MpG in 2016 for light-duty vehicles. *Id.*

23. Kyle Danish et al., *The Clean Air Act and Global Climate Change*, *in* THE CLEAN AIR ACT HANDBOOK 521, 529 (Julie R. Domike & Alec C. Zacaroli eds., 3d ed. 2011) [hereinafter CAA HANDBOOK].

24. *See* ROBERT MELTZ, CONG. RESEARCH SERV., R41103, FEDERAL AGENCY ACTIONS FOLLOWING THE SUPREME COURT'S CLIMATE CHANGE DECISION IN *MASSACHUSETTS V. EPA*: A CHRONOLOGY 6 (2014) (listing the various measures that agencies have taken in wake of the named case); *supra* notes 13-20 and accompanying text; *see also* Util. Air Regulatory Grp. v. EPA, 134 S. Ct. 2427 (2014) (surviving a challenge that its regulation of new and modified sources of GHGs under Title V and PSD was outside the EPA's scope of authority but invalidating the Tailoring Rule); Texas v. EPA, 726 F.3d 180 (D.C. Cir. 2013) (surviving a challenge to five rules promulgated by the EPA to ensure authority to regulate existing sources of GHGs); Coal. for Responsible Regulation v. EPA, 684 F.3d 102 (D.C. Cir. 2012) (challenging the motor vehicle emission standards), *aff'd in part, rev'd in part by* Util. Air Regulatory Grp. v. EPA, 134 S. Ct. 2427 (2014). *But see* Ctr. for Biological Diversity v. EPA, 722 F.3d 401 (D.C. Cir. 2013) (vacating EPA's decision to defer regulation of biogenic sources of carbon dioxide, e.g., ethanol, for three years).

whether a pollutant's concentration in the ambient air exceeds the National Ambient Air Quality Standards (NAAQS), meets the NAAQS, or cannot be determined (respectively).[25] The PSD provision requires that new major stationary sources of "NSR pollutant[s]"[26] within areas designated as in attainment or unclassified (regardless of whether that pollutant is the pollutant for which NAAQS have been attained) install the best available control technology (BACT).[27] The term "NSR pollutant" is specifically defined to comply with the Supreme Court's decision in *Utility Air Regulatory Group v. EPA*, which decreased the range of GHG sources the EPA could regulate from 83% to 80%.[28]

The EPA justified the regulatory expansion with a number of guidance documents, initially beginning with a revisit to the Johnson Memorandum to clarify ambiguity on which pollutants would be regulated under the PSD program.[29] The Johnson Memorandum was originally issued in 2008.[30] After revisiting the Johnson Memorandum, the EPA concluded that any pollutant otherwise subject to regulation under the CAA could be regulated under PSD.[31] The issue of

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25. 42 U.S.C. § 7407(d) (2012).

26. 40 C.F.R. § 52.21(b)(50) (2014).

27. 42 U.S.C. §§ 7475(a), 7479(3); 40 C.F.R. § 51.166(a)(7)(i).

28. 134 S. Ct. at 2438-39, 2448-49. Currently, GHGs are subject to regulation if:

> The stationary source is a new major stationary source for a regulated NSR pollutant that is not GHGs, and also will emit or will have the potential to emit 75,000 [tons per year of carbon dioxide] or more; or [t]he stationary source is an existing major stationary source for a regulated NSR pollutant that is not GHGs, and also will have an emissions increase of a regulated NSR pollutant, and an emissions increase of 75,000 [tons per year of carbon dioxide] or more . . . .

40 C.F.R. § 51.166(48)(iv)(a), (iv)(b). The term "regulation," in the context of GHGs, also refers to:

> [N]ew stationary source[s] that will emit or have the potential to emit 100,000 [tons per year of carbon dioxide]; . . . existing stationary source[s] that emit[] or ha[ve] the potential to emit 100,000 [tons per year of carbon dioxide], when such stationary source undertakes a physical change or change in the method of operation that will result in an emissions increase of 75,000 [tons per year of carbon dioxide] or more.

Id. § 51.166(48)(v)(a), (v)(b).

29. *See* Danish et al., *supra* note 23, at 530; Memorandum from Stephen L. Johnson, Administrator, to Regional Administrators, EPA's Interpretation of Regulations that Determine Pollutants Covered by Federal Prevention of Significant Deterioration (PSD) Permit Program (Dec. 18, 2008), *available at* http://epa.gov/nsr/documents/psd_interpretive_memo_12.18.08.pdf; Letter from Lisa P. Jackson, EPA Administrator, to David Bookbinder, Chief Climate Counsel, Sierra Club (Feb. 17, 2009), *available at* http://epa.gov/nsr/documents/20090217LPJlettertosierraclub.pdf.

30. *See* Danish et al., *supra* note 23, at 530.

31. EPA, RECONSIDERATION OF INTERPRETATION OF REGULATIONS THAT DETERMINE POLLUTANTS COVERED BY CLEAN AIR ACT PERMITTING PROGRAMS 1-2, *available at*

timing the dual regulations remained (because PSD regulation could not occur before mobile source regulation began), so the EPA issued the Timing Rule.[32] The Timing Rule determined that the regulation would be legally effective when the regulation became *legally enforceable*: January 2, 2011.[33]

The EPA also issued the Tailoring Rule to limit the types of facilities it would regulate under the PSD and Title V programs. The Tailoring Rule was needed because the CAA requires PSD and Title V permitting for any facility emitting as little as 100 or 250 tons per year.[34] For most conventional pollutants, this standard is sufficiently high to ensure only large emitters require permitting. However, CO_2 pollution is so widespread and excessive that even non-traditionally regulated facilities, such as commercial buildings, would require the installation of BACT.[35] Therefore, the EPA issued a Tailoring Rule, under which the EPA would only apply PSD permitting requirements to new sources emitting at least 100,000 tons of CO_2 per year and sources modified to increase emissions by at least 75,000 tons of CO_2 per year.[36]

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http://epa.gov/nsr/documents/psd_memo_recon_032910.pdf; *see also* Danish et al., *supra* note 23, at 530-31 (noting that the Johnson Memorandum's interpretation of "pollutant" was reaffirmed because the mobile source regulation occurred in tandem with the revisitation).

32. Reconsideration of Interpretation of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs, 75 Fed. Reg. 17,004, 17,004 (Apr. 2, 2010) [hereinafter Timing Rule].

33. *Id.*

34. 42 U.S.C. §§ 7475(a), 7479(1), 7661(2)(B), 7602(j) (2012).

35. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514, 31,514 (June 3, 2010) [hereinafter Tailoring Rule]. The Tailoring Rule start date coincides with the start date in the Timing Rule. *See* Timing Rule, *supra* note 32.

36. Tailoring Rule, *supra* note 35, at 31,516; Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 1430, 1430 (2014); *see also* Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule Step 3 and GHG Plantwide Applicability Limits, 77 Fed. Reg. 41,051 (July 12, 2012) (Phase 3, which continues indefinitely, leaves the limitations from Phase 2 unchanged). The EPA left the Phase 2 limitations unchanged in part because a number of states had not yet updated their SIPs to include legal authorities sufficient to permit PSD and Title V for GHG sources. *Id.* at 41,052; *see also* Action to Ensure Authority to Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Failure to Submit State Implementation Plan Revisions Required for Greenhouse Gases, 75 Fed. Reg. 81,874 (Dec. 29, 2010) (finding that thirteen states had inadequate permitting authorities). A federal implementation plan (FIP) was almost issued for Texas, but at the eleventh hour EPA and Texas came to an agreement on permitting. *See* Approval and Promulgation of Air Quality Implementation Plans; Withdrawal of Federal Implementation Plan; Texas; Prevention of Significant Deterioration; Greenhouse Gas Tailoring Rule Revisions, 79 Fed. Reg. 9,123, 9,123 (Feb. 18, 2014); Determinations Concerning Need for Error Correction, Partial Approval and Partial Disapproval, and Federal Implementation Plan Regarding Texas's Prevention of Significant Deterioration Program, 76 Fed. Reg. 25,178, 25,178 (May 3, 2011). *See generally* Texas v. EPA, 726 F.3d 180 (D.C. Cir. 2013) (three states that had not submitted SIPs, including Texas, elected to challenge the EPA's authority to regulate GHGs). The EPA entered into

III. SUBSECTION 111(D): EPA'S AUTHORITY TO ISSUE THE CLEAN POWER PLAN

Normally a state establishes a State Implementation Plan (SIP) to meet the NAAQS for criteria pollutants. However, GHGs have not been listed as criteria pollutants. Instead, existing stationary sources of GHGs are regulated under CAA subsection 111(d), under which the EPA may regulate pollutants that have neither been listed as hazardous air pollutants (HAPs)[37] nor as criteria pollutants[38] and have also been regulated under subsection 111(b) (which applies to newly constructed categories of stationary sources listed by the EPA as a criteria pollutant, HAP, or otherwise).[39] Because most pollutants emitted from stationary sources are regulated as criteria pollutants or HAPs, 111(d) is rarely utilized to regulate an existing stationary source of a pollutant.[40] The last instance in which 111(d) was used was back in 1996, and it was never interpreted by the courts.[41] Air pollutants under 111(d) and 111(b) are regulated through technology-based emission standards, in contrast to ambient conditions for regulating criteria pollutants.[42]

Under 111(d), the EPA first determines the best system of emissions reduction (BSER) for existing EGUs emitting GHGs by weighing the cost of existing technology against the health, environmental, and energy impacts of not implementing that specific type of technology.[43] Based on the BSER, EPA issues emission guidelines for states

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negotiations with these states to set deadlines to update their SIPs, and if the states missed the deadlines, the EPA would issue a stricter FIP. Danish et al., *supra* note 23, at 533.

37. 42 U.S.C. § 7412 (2012).

38. *Id.* § 7408. Nitrogen oxide, ozone, particulate matter, sulfur dioxide, carbon monoxide, and lead are the only criteria pollutants listed by the EPA. Richard E. Ayres & Jessica L. Olson, *Setting National Ambient Air Quality Standards*, *in* CAA HANDBOOK, *supra* note 23, at 13, 13.

39. 42 U.S.C. § 7411(d) (2012).

40. *See* EPA FAQ, *supra* note 2, at 2; Robert J. Martineau Jr. & Michael K. Stagg, *New Source Performance Standards*, *in* CAA HANDBOOK, *supra* note 23, at 321, 331; *see also* Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units, 70 Fed. Reg. 28,606, 28,616 (May 18, 2005) [hereinafter CAMR] (proposing initially to regulate mercury under § 111(d)).

41. Standards of Performance for New Stationary Sources and Guidelines for Control of Existing Sources: Municipal Solid Waste Landfills, 61 Fed. Reg. 9,905, 9,905 (Mar. 12, 1996); EPA FAQ, *supra* note 2, at 2.

42. Martineau & Stagg, *supra* note 40, at 321. Subsection 111(d)'s focus on technology-based standards contrasts the typical U.S. approach to regulating air pollutants through risk-based standards. *See* NOGA MORAG-LEVINE, CHASING THE WIND: REGULATING AIR POLLUTION IN THE COMMON LAW STATE 3, 10 (2003). Risk-based standards are followed by the traditional nuisance common law approach and the CAA. *See id.*

43. 42 U.S.C. § 7411(a)(1) (2012); *see* ZACHARY A. SMITH, THE ENVIRONMENTAL POLICY PARADOX 99 (Pearson Educ., Inc., 5th ed. 2009).

to follow in developing and implementing their state plans.[44] States do not have to utilize the BSER determined by the EPA. Instead, the BSER acts as more of a feasibility proxy that a state may mimic with a different system of emissions reduction: one it thinks is "best" under its state-specific circumstances.

The implementation of BSER applies "without regard to the actual ambient air quality in a particular area, and imposes emissions control technology requirements at the time a source is built, regardless of its location,"[45] for both new and existing sources of GHGs.[46] One of the reasons section 111 utilizes technology-based standards is that it allows for states to compete on equal footing for new industrial growth.[47] In contrast to 111, "[u]nder the NAAQS, as implemented through the [SIPs], areas with cleaner air could gain an economic advantage over those in nonattainment since the former could set less stringent pollution control requirements."[48] Considering that some states are in a better position than others to utilize alternative fuel sources,[49] a level playing field is fairer for industries within those states.

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44. 42 U.S.C. § 7411(d)(1) (2012); Emissions Guidelines, *supra* note 1, at 34,834. Florida can take this opportunity to supplement its existing enforcement scheme with policies designed specifically for GHG reduction enforcement. An enforcement scheme designed specifically to enforce GHG limits may be appropriate because a state may design a regulatory scheme much different than the traditional command-and-control option. For instance, if a state may develop a cap-and-trade program to lower GHGs, its existing enforcement measures would likely be developed solely to enforce a command-and-control approach to regulation, not an alternative, GHG-appropriate regulatory scheme. Furthermore, the EPA can list "adequately demonstrated systems" that will also reach the required level of emissions reduction. 40 C.F.R. § 60.22(b)(2)-(3) (2014).

45. Martineau & Stagg, *supra* note 40, at 321.

46. 42 U.S.C. § 7411(d)(1) (2012); *see also* Regulating Greenhouse Gas Emissions Under the Clean Air Act, 73 Fed. Reg. 44,354, 44,363 (Advance Notice of Proposed Rulemaking) (July 30, 2008) (addressing concerns from the Department of Transportation that utilization of sections 108 and 109, the consequent setting of NAAQS, and amending SIPs for GHGs would negatively affect infrastructure). The Advanced Notice of Proposed Rulemaking highlighted three main difficulties with regulating GHGs as criteria pollutants:

> 1. The determination of what GHG concentration level is requisite to protect public health and welfare;
> 2. the unique nature of GHGs as pollutants dispersed from sources throughout the world and that have long atmospheric lifetimes; and
> 3. GHG concentrations in the ambient air are virtually the same throughout the world meaning that they are not higher near major emissions sources than in isolated areas with no industry or major anthropogenic sources of GHG emissions.

Id. at 44,367.

47. Martineau & Stagg, *supra* note 40, at 321.

48. *Id.*

49. In setting the goals for each state, the EPA considered each state's access to alternative fuel sources, both renewable and nonrenewable, by projecting their continued use. Emissions Guidelines, *supra* note 1, at 34,887-88.

IV. THE CLEAN POWER PLAN

Finally, the tumultuous administrative history of GHG regulations culminated in the CPP: a plan to regulate existing stationary sources of CO_2.[50] With the presence of existing state-level GHG regulations, such as California's cap-and-trade program[51] and the Regional Greenhouse Gas Initiative (RGGI),[52] the EPA has stated its attempt to afford states some flexibility.[53] The CPP affords states "considerable flexibility" in regard to the timeframes in which a state must develop and implement its plans to meet its state-specific goals.[54] States have up to two or three years to submit their final plans and have up to fifteen years to implement all reduction measures elucidated within the plans.[55] While a state is limited to a few, specific options for the regulatory tools it may utilize to reach those goals,[56] the EPA has explicitly said that a state's chosen control measures need not be as EGU-centric as the proposed rule's title suggests. For instance, the EPA has listed alternative control measures like energy efficiency programs and renewable portfolio standards.[57] The EPA suggests expanded use of these programs to meet the state goals. Continually, throughout the CPP, the EPA references a portfolio approach to reducing emissions.[58] Through the portfolio approach, a state can use multiple regulatory programs to reduce emissions. However, "[a] state plan must include enforceable CO_2 emission limits (either rate-based or mass-based) that apply to affected EGUs."[59] The EPA leaves two options: (1) the direct limita-

50. *Id.*

51. CAL. CODE REGS. tit. 17, §§ 95801-96022 (2012).

52. The RGGI is an agreement among Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont to lower GHG emissions through an interstate cap-and-trade program. REG'L GREENHOUSE GAS INITIATIVE, ABOUT THE REGIONAL GREENHOUSE GAS INITIATIVE (RGGI) [hereinafter ABOUT RGGI], *available at* http://www.rggi.org/docs/Documents/RGGI_Fact_Sheet.pdf. The initiative has a model rule for member states to implement for the legal authority to participate in the program. REG'L GREENHOUSE GAS INITIATIVE, MODEL RULE PART XX CO2 BUDGET TRADING PROGRAM, *available at* http://www.rggi.org/docs/ProgramReview/_FinalProgramReviewMaterials/Model_Rule_FINAL.pdf.

53. *See generally* CHRISTOPHER E. VAN ATTEN, M.J. BRADLEY & ASSOCS., LLC, STRUCTURING POWER PLANT EMISSIONS STANDARDS UNDER SECTION 111(D) OF THE CLEAN AIR ACT—STANDARDS FOR EXISTING POWER PLANTS (2013), *available at* http://www.mjbradley.com/sites/default/files/Options%20for%20Regulating%20Power%20Plants%20Under%20Section%20111%20Final.pdf (urging the EPA to adopt market-based regulatory approaches to help further the interests of multiple power companies and detailing CAA Section 111 background).

54. Emissions Guidelines, *supra* note 1, at 34,833.

55. *Id.*

56. *Id.*

57. *Id.*

58. *Id.* at 34,901.

59. *Id.* at 34,851, 34,909.

tion of emissions from EGUs *or* (2) a portfolio approach of direct limitations *and* "other measures that have the effect of limiting generation by, and therefore emissions from, the affected sources."[60] The CPP continues to refer to plans that must include limitations that apply directly to affected EGUs and also refers to programs like renewable energy programs and energy efficiency programs that do not apply directly to affected EGUs. If these two sets of programs are referred to separately, then control measures that apply directly to affected EGUs cannot include measures like renewable energy portfolios and energy efficiency programs. A carbon tax does not directly require EGUs to lower their emissions, so it would have to be included as a portfolio measure.

The CPP briefly covers different existing state policies and programs that could be included in the state plans. The different polices include market-based emission limits (like California's and RGGI's cap-and-trade programs), existing state emission limits on new and/or expanded EGUs,[61] utility planning approaches (in which states and utilities adopt a plan to reduce emissions over time), renewable portfolio standards (whereby states require electricity suppliers to supply a portion of electricity generated from renewable sources), demand-side energy efficiency programs (for example, providing tax credits to buildings that use energy efficiency measures),[62] and energy efficiency resource standards (which require utilities to save a certain amount of energy each year).[63] The CPP does not list a carbon tax as an available tool for states. The argument could be made that the EPA does not have enough experience with regulating under a carbon tax, however, the same could be said for all of the existing policies implemented by states.[64] And the pro-

60. *Id.* at 34,851.

61. Washington, Oregon, California, and New York currently have emission limits on EGUs of different electrical capacities. Emissions Guidelines, *supra* note 1, at 34,848-50.

62. *See generally* HENSON, *supra* note 8, at 428-32 (covering various voluntary energy efficiency programs).

63. *See* Emissions Guidelines, *supra* note 1, at 34,848-50.

64. For this reason, the EPA has requested comment on whether it should make the portfolio control measures practically enforceable, as opposed to federally enforceable. *Id.* at 34,902. On one hand, making the measures federally enforceable should ensure that the EPA maintains a level playing field. The goal behind the EPA's deterrence-based enforcement approach is to disgorge any benefit a noncomplying facility may gain by violating the law. John C. Cruden & Bruce S. Gelber, *Federal Civil Environmental Enforcement: Process, Actors, and Trends*, 18 NAT. RESOURCES & ENV'T 10, 14 (2004); *see* Robert E. Hudec, *Differences in National Environmental Standards: The Level-Playing-Field Dimension*, 5 MINN. J. GLOBAL TRADE 1 (1996). The enforcement action then brings the noncomplying facility to the same level as complying facilities, thus ensuring a level playing field. Without a level playing field, not only would regulated facilities be incentivized to not comply, but they would also gain a competitive advantage over complying facilities. If the plans are not made federally enforceable, then the EPA would be relying on the states to ensure a level playing field, and they would be ensuring a level playing field in an area where states have been less than amenable to regulation. Or, if the measures are made federally enforceable,

posed rule should allow states to lower emissions with a carbon tax so long as it "[has] the effect of limiting generation by, and therefore emissions from, the affected sources."[65] I further explore the authority for Florida to implement a carbon tax under section 111(d) and the CPP in Part V.

Normally when the EPA promulgates a new rule requiring states to amend their SIPs, the EPA will issue a model rule intended to guide states' decision-making processes. Some states will adopt the model rule for administrative efficiency and for the guarantee of acceptance.[66] The EPA, however, has not issued a model rule for the CPP. The EPA likely did not issue a model rule because the EPA foresees states using the portfolio approach. The potential patchwork of different states utilizing different combinations within their portfolio measures would create an administrative headache for the EPA. However, a partial model rule relating to the direct emissions limitations from affected EGUs would have been helpful for clarification purposes.

The EPA found the BSER to be any combination of four different building blocks: heat rate improvements, redispatching, renewable energy generation, and energy efficiency.[67] The building blocks are

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the EPA would be occupying an area in which states have more experience and invested regulatory capital. Or it may not matter at all because most portfolio measures will likely only elicit voluntary participation, and a tax would only depend on facilities monitoring and reporting their emissions, which they already do, assuming the tax is applied to emissions. *See infra* discussion Part VII (discussing in further detail the ways in which a carbon tax may be levied on facilities). CPP's potential reliance on practicable enforceability has precedence at the EPA. For comparison, facilities' potential to emit limits, under the CAA's New Source Review Program, were once required to be federally enforceable. *See* Bernard F. Hawkins Jr. & Mary Ellen Ternes, *The New Source Review Program*, *in* CAA HANDBOOK, *supra* note 23, at 125, 144. But the U.S. Court of Appeals vacated the requirement. *See* Chem. Mfrs. Ass'n v. EPA, 70 F.3d 637 (D.C. Cir. 1995). Now, the EPA requires that the requirements simply be "practicably enforceable." Hawkins Jr. & Ternes, *supra*, at 144.

65. Emissions Guidelines, *supra* note 1, at 34,851.

66. *See* Whealdon, *supra* note 16, at 8-9 & n.47 (describing states' efficiency motivations for adopting model SIPs).

67. The building blocks include:

> 1. Reducing the carbon intensity of generation at individual affected EGUs through heat rate improvements.
> 2. Reducing emissions from the most carbon-intensive affected EGUs in the amount that results from substituting generation at those EGUs with generation from less carbon-intensive affected EGUs (including natural gas combined cycle (NGCC) units that are under construction).
> 3. Reducing emissions from affected EGUs in the amount that results from substituting generation at those EGUs with expanded low- or zero-carbon generation.
> 4. Reducing emissions from affected EGUs in the amount that results from the use of demand-side energy efficiency that reduces the amount of generation required.

Emissions Guidelines, *supra* note 1, at 34,851.

not the policies a state would implement. Instead, the building blocks are the actual, physical means EGUs have to reduce emissions. The purpose of setting the different policies, including a carbon tax, is to reduce emissions at a rate to determine the best benefit to the public health at the lowest cost to EGUs and, by extension, consumers.[68]

The EPA, using state-specific data, formulated its state-specific goals under a single methodology. This data included factors like a state's potential to generate, import, and connect to its grid renewable energy and natural gas. But the goals are formed with the expectation that states will go beyond their existing programs (like renewable energy portfolios and energy efficiency projects) to reduce emissions.[69] Furthermore, states may implement a multi-state, regional approach, like the RGGI. A multi-state program would be accompanied by a multi-state goal equivalent to each state's individual goals.[70] Within the CPP, the EPA acknowledged the success of the RGGI in reducing emissions: "Between 2005, when an agreement to implement RGGI was announced, and 2012, power sector CO_2 emissions in the RGGI participating states fell by more than 40 percent."[71]

States can convert the rate-based goals to mass-based goals.[72] "The conversion must represent the tons of CO_2 emissions that are projected to be emitted by affected EGUs, in the absence of emission standards contained in the plan, if the affected EGUs were to perform at an average lb CO_2/MWh rate equal to the rate-based

68. *See id.* at 34,835 (stating that "10 states have market-based GHG emission programs, 38 states have renewable portfolio standards or goals, and utilities in 47 states run demand-side energy efficiency programs"). Of these programs, Florida only has a demand-side energy efficiency program. *See* Florida Energy Efficiency and Conservation Act, FLA. STAT. §§ 366.80-83 (2014). One of the building blocks, heat rate improvements, is actually economically efficient for EGUs to implement because it translates to producing more energy from each unit of coal. *See* DAVID HASLER, SARGENT & LUNDY, LLC, COAL-FIRED POWER PLANT HEAT RATE REDUCTIONS (2009), *available at* http://www.epa.gov/airmarkets/resource/docs/coalfired.pdf. Current studies estimate that heat rate improvements could reduce emissions from a range of less than 5% to greater than 15%. OFFICE OF AIR & RADIATION, EPA, 450R13002, DOCUMENTATION FOR EPA BASE CASE V.5.13 USING THE INTEGRATED PLANNING MODEL (2013), *available at* http://www.epa.gov/airmarket/documents/ipm/Documentation.pdf. Under the CPP, the EPA estimates heat rate improvements, on average, can reduce emissions by 6%. EPA V5.13 BASE CASE DOCUMENTATION SUPPLEMENT TO SUPPORT EPA'S PROPOSED CARBON POLLUTION GUIDELINES FOR EXISTING ELECTRIC GENERATING UNITS 1 [hereinafter EPA BASE SUPPLEMENT], *available at* http://www.epa.gov/airmarkets/powersectormodeling/docs/EPA%20Base%20Case%20v5%2013%20Documentation%20Supplement%20for%20CPP_6_12_14.pdf.

69. Emissions Guidelines, *supra* note 1, at 34,837.

70. *Id.* at 34,834, 34,836, 34,851.

71. *Id.* at 34,848; *see also id.* at 34,855 (noting the success of the RGGI and multi-state programs, generally).

72. *Id.* at 34,837.

goal . . . ."[73] EPA's guidance on how to convert to a mass-based goal would be confusing without the accompanied technical support document, which provides details on how the rate-based goals were calculated.[74] Florida's interim goal, to be reached during the phase-in period between 2020 and 2029, is 794 average pounds of CO_2 per net MWh from all affected fossil fuel-fired EGUs.[75] Florida's final rule, to be reached by 2030, is 740 average pounds of CO_2 per net MWh from all affected fossil fuel-fired EGUs.[76] A mass-based goal would be preferable because meeting a rate-based goal would not necessarily lower overall emissions if more electricity is produced at a rate more efficient, relative to the goal, than the emission of CO_2.

V. SUBSECTION 111(D) SUPPORTS A CARBON TAX

A. Does a Carbon Tax Qualify as a Performance Standard?

There is a possible legal issue with the EPA's interpretation of the CAA: the interpretation allows the CAA to expand the reach of 111(d) to reach entities other than affected EGUs to lower emissions.[77] Some of the portfolio measures, for example energy efficiency and a carbon tax (depending on when/where it is levied), would reduce emissions by acting upon entities other than EGUs. It may have been Congress's intent to only authorize the EPA to reduce pollutants solely by regulating affected EGUs. Additionally, the EPA's rare use of 111(d) makes a comparison to prior regulatory schemes difficult.[78] Section

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73. *Id.* at 34,953. If Florida implements a cap-and-trade program, it will have to convert to a mass-based goal because cap-and-trade can only function with a mass-based goal. Jennifer A. Smokelin, *EPA Clean Power Proposal May Fuel State Cap and Trade*, LAW 360 (June 27, 2014, 11:04 AM), http://www.law360.com/articles/551835/epa-clean-power-proposal-may-fuel-state-cap-and-trade; *see also* ABOUT RGGI, *supra* note 52 (noting that the RGGI's mass-based goal is "91 million short tons [in 2014] . . . [and] declines 2.5% each year from 2015 to 2020").

74. OFFICE OF AIR & RADIATION, EPA, GOAL COMPUTATION TECHNICAL SUPPORT DOCUMENT (2014), *available at* http://www2.epa.gov/sites/production/files/2014-06/documents/20140602tsd-goal-computation.pdf.

75. Emissions Guidelines, *supra* note 1, at 34,895.

76. *Id.*

77. *See id.* at 34,902.

78. JEREMY M. TARR ET AL., NICHOLAS INST. FOR ENVTL. POLICY SOLUTIONS, DUKE UNIV., REGULATING CARBON DIOXIDE UNDER SECTION 111(D) OF THE CLEAN AIR ACT: OPTIONS, LIMITS, AND IMPACTS 5 (2013), *available at* https://nicholasinstitute.duke.edu/sites/default/files/publications/ni_r_13-01.pdf (discussing the decision in the context of 111(d)). The EPA initially intended to regulate mercury under 111(d), but then interpreted the section to not allow regulation of sources of pollutants regulated under 112. *See* National Emission Standards for Hazardous Air Pollutants from Coal and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units, 77 Fed. Reg. 9,304, 9,308 n.6 (Feb. 16, 2012); CAMR, *supra* note 40, at 28,616.

111, on its face, is silent on the issue of whether a "standard of performance" can include standards for unaffected entities that indirectly affect EGUs.[79] Therefore, the EPA inserted its reasonable interpretation under *Chevron v. NRDC*.[80] The EPA's reasonable interpretation of the CAA confers authority to set performance standards for unaffected entities, so long as they lower emissions from affected EGUs.[81]

The Supreme Court previously had the opportunity to limit the extension of performance standards. In *Engine Manufacturer's Ass'n v. South Coast Air Quality Management District*, a trade association challenged the local air quality management district's rule restricting the purchase of fleet vehicles to those that met motor vehicle emission standards.[82] The issue was whether the sale prohibition qualified as a "standard relating to the control of emissions . . . ."[83] Traditionally, as the lower court held, a standard is a regulation that directly requires manufacturers to meet specified emission limits, as opposed to indirectly like the sale prohibition at issue.[84] In review, the Court defined a standard as any criterion or test designed to reduce emissions, which would include both manufacturer and purchase restrictions.[85] Therefore, a criterion relating to the purchase of the vehicles, rather than mandating how a manufacturer builds the vehicles, is still a standard under section 202 of the CAA, which relates to motor vehicle emissions.[86] Similarly, a performance standard under section 111 is defined as "a standard for emissions of air pollutants . . . ."[87] Therefore, "performance standards" under 111 should be as broadly defined as it is under 202, including regulations extending past the affected entities (the manufacturers) to the sales and purchases of fossil fuels.

Subsection 111(d) refers to subsection 110(a) when describing the form a plan should take.[88] To ensure that a performance standard can encompass a carbon tax, this Note will also analyze subsection

79. *See* 42 U.S.C. § 7411 (2012); Emissions Guidelines, *supra* note 1, at 34,902.

80. 467 U.S. 837, 842-44 (1984).

81. *Id.*

82. 541 U.S. 246, 255-56 (2004); *see* EISENBERG ET AL., *supra* note 16, at 5-6 (discussing the applicability of a carbon tax to a performance standard under the CAA, § 111(d)); *see also* CAMR, *supra* note 40, at 28,616 (determining that a cap-and-trade system for regulating mercury qualifies as a standard of performance).

83. *Engine Mfrs. Ass'n*, 541 U.S. at 251.

84. *Id.* at 252-53.

85. *Id.* at 253.

86. *Id.*; *see* Brad Lee Bonner, *Clean Air Through Statutory Construction:* Engine Manufacturers Ass'n v. South Coast Air Quality Management District, 9 GREAT PLAINS NAT. RESOURCES J. 53, 60-61 (2004); *see also* New Jersey v. EPA, 517 F.3d 574 (D.C. Cir. 2008) (not reaching the question of whether a cap-and-trade system is a performance standard under section 111).

87. *Compare* 42 U.S.C. § 7411(a)(1) (2012), *with* 42 U.S.C. § 7543(a) (2012).

88. *See* § 7411(d)(1).

110(a). Section 110 refers to "provisions . . . prohibiting . . . any source or other type of emissions activity within the State from emitting any air pollutant" that contributes to or interferes with attaining the NAAQS.[89] The reference to "emissions activity" should be broad enough to include the portfolio performance standards, which can include a carbon tax. Instead of prescribing that states implement traditional command-and-control regulations to achieve the NAAQS, subsection 110(a) provides a non-exhaustive list of "other control measures" to achieve compliance.[90] For instance, the statute suggests alternative means of implementation including "economic incentives such as fees, marketable permits, and auctions of emissions rights . . . ."[91] A carbon tax is an example of a fee in much the same way that 110 supports a cap-and-trade program as a "marketable permit[]."[92] Additionally, other articles have argued that the wide nets of sections 111 and, by reference, 110 support cap-and-trade and energy efficiency programs as a means to reduce emissions.[93]

B. Could a Carbon Tax Violate the Dormant Commerce Clause?

Depending on the point where the carbon tax is levied, Florida may encounter a Dormant Commerce Clause challenge.[94] Any discriminatory performance standards, such as only levying carbon tax-

89. *Id.* § 7410(a)(2)(D)(i)-(ii).

90. *Id.* § 7410.

91. *Id.* § 7410(2)(a).

92. *See id.*; *see also* M. Rhead Enion, *Using Section 111 of the Clean Air Act for Cap-and-Trade of Greenhouse Gas Emissions: Obstacles and Solutions*, 30 UCLA J. ENVTL. L. & POL'Y 1 (2012) (arguing that a cap-and-trade program under 111 could easily be translated to a program under 110).

93. *See, e.g.*, KATE KONSCHNIK & ARI PESKOE, HARVARD LAW SCH. ENVTL. LAW PROGRAM, THE CASE FOR END-USE ENERGY EFFICIENCY PROGRAMS IN THE SECTION 111(D) RULE FOR EXISTING POWER PLANTS (2014), *available at* http://blogs.law.harvard.edu/environmentallawprogram/files/2013/03/The-Role-of-Energy-Efficiency-in-the-111d-Rule.pdf (discussing 111(d) and the use of economic considerations to allow for the use of energy-efficiency programs); Enion, *supra* note 92.

94. *See, e.g.*, C & A Carbone, Inc. v. Clarkston, 511 U.S. 383, 390-91 (1994) (holding that a town's ordinance requiring that all solid waste processed or handled in the town be processed at the town's transfer station violated the Dormant Commerce Clause because it discriminated based on where the service is provided); Or. Waste Sys. v. Dep't of Envtl. Quality, 511 U.S. 93, 98 (1994) ("Though phrased as a grant of regulatory power to Congress, the Clause has long been understood to have a 'negative' aspect that denies the States the power unjustifiably to discriminate against or burden the interstate flow of articles of commerce."). A regulation requiring that a product be manufactured without a toxic chemical within a city, county, or state, may also unduly burden interstate commerce by discriminating against manufacturing occurring outside of the state or political subdivision. *See id.* However, if the state or political subdivision can show that, under rigorous scrutiny, it has no other means to advance a legitimate state interest, even a discriminatory regulation will be upheld. *See* Maine v. Taylor, 477 U.S. 131, 148-49 (1986) (holding that Maine's ban on the import of shellfish did not violate the Dormant Commerce Clause because it was the only way to prevent the spread of disease).

es on fossil fuels produced outside of Florida, would violate the Dormant Commerce Clause.[95] However, the carbon tax, as written, would tax all sales of fossil fuels. Still, much of Florida's energy is produced from natural gas and coal exported to Florida.[96] Therefore, even if a carbon tax is written and implemented without discriminatory intent, it could be indirectly discriminatory. The only way that a nondiscriminatory requirement that is enforced both in-state and out-of-state would be found to violate the Dormant Commerce Clause is if "the burden imposed on such commerce is clearly excessive in relation to the putative local benefits."[97] With a carbon tax levied at the time of importation, the imposed burden would amount to a heftier price on imports, while the local benefits would be a reduction in a known atmospheric pollutant, CO_2, and compliance with Florida's EPA-mandated goal. The tax, at importation, would be levied onto all fossil fuels, based on carbon intensity. The tax would be distributed mostly among natural gas, which, in 2013, produced 62% of Florida's power; 21% of Florida's power was produced from coal.[98]

However, a recent case out of Minnesota applied the Dormant Commerce Clause to regulations affecting interstate transactions, with the goal of reducing state emissions.[99] In *North Dakota v. Heydinger*, a trial-level court held that a law preventing the construction of new facilities that would contribute an increase to net state-wide GHG emissions, as well as the importation of electricity from out-of-state facilities that would have the same effect, violated the Dormant Commerce Clause.[100] The court held that the statute was invalid be-

95. *Or. Waste Sys.*, 511 U.S. at 99 (" '[D]iscrimination' simply means differential treatment of in-state and out-of-state economic interests that benefits the former and burdens the latter. If a restriction on commerce is discriminatory, it is virtually *per se* invalid.").

96. *See Florida State Profile and Energy Estimates*, U.S. ENERGY INFO. ADMIN., http://www.eia.gov/state/?sid=FL [hereinafter *Fla. Energy Estimates*] (last visited May 5, 2015) (noting that in 2012, Florida produced 19 trillion Btus, out of several thousand trillions of Btus consumed). A new natural gas site in Collier County did not begin operation until earlier in 2014, however. Currently, operations are suspended. *See* Craig Pittman, *Texas Oil Company Used Acid in Florida Wildlife Sanctuary Soil, Denies Fracking*, TAMPA BAY TIMES (Apr. 24, 2014, 5:57 PM), http://www.placead.tampabay.com/news/environment/water/texas-oil-company-injected-acid-in-soil-of-florida-wildlife-sanctuary/2176743; Press Release, Fla. Dep't of Envtl. Prot., DEP and Collier County Enter into an Agreement on Dan A. Hughes Enforcement (Oct. 17, 2014), *available at* http://content.govdelivery.com/accounts/FLDEP/bulletins/d6750a.

97. Pike v. Bruce Church, Inc., 397 U.S. 137, 142 (1970) ("Where the statute regulates even-handedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits.").

98. *Fla. Energy Estimates*, *supra* note 96.

99. *See generally* Kirsten H. Engel, *The Dormant Commerce Clause Threat to Market-Based Environmental Regulation: The Case of Electricity Deregulation*, 26 ECOLOGY L.Q. 243 (1999) (addressing potential Dormant Commerce Clause challenges to various market-based environmental approaches, including renewable portfolio standards and taxes).

100. North Dakota v. Heydinger, 15 F. Supp. 3d 891, 906-07 (D. Minn. 2014).

cause it attempted to regulate transactions occurring between out-of-state facilities, therefore violating the extraterritoriality doctrine.[101] The court reasoned that the transactions falling within the purview of the law could be occurring wholly out-of-state because of how power is distributed.[102] Power is distributed throughout the region and across state boundaries by a regional transmission organization ("RTO").[103] And because two out-of-state facilities buying and selling electricity cannot ensure that a portion of that electricity will not cross the border into North Dakota and be removed, they could therefore contribute to net GHG emissions.[104]

To avoid violating the extraterritoriality doctrine, a carbon tax could not be written so as to be levied on any electricity transactions occurring out-of-state; potentially, under the RTO of the southeast, electricity generated from out-of-state fossil fuels could incidentally enter Florida and therefore violate the carbon tax law. To avoid this issue, the carbon tax should be written to be levied on the actual fuel itself, as it is consumed within Florida. It could either be paid at a fuel depot, when the fuel is purchased, or be paid at the facility, where the fuel will be consumed. However, I argue in Part VII of this Note that the tax should be levied on the emissions themselves.[105] Therefore, it would be impossible to regulate wholly out-of-state facilities. Furthermore, the tax would not discriminate against out-of-state fuel.

In conclusion, the CPP, 111(d), and case law support the imposition of a carbon tax. Assuming all other requirements of the plan are met (quantifiability, enforceability, replicability, and accountability),[106] the EPA has to approve the plan. Although section 111 does not contain provisions regarding how the EPA reviews a plan under 111(d), it refers to section 110 and instructs the EPA to follow procedures for section 110 (SIPs for criteria pollutants). Therefore, in lieu of 111(d) procedures, when approving a 111(d) plan, the EPA should be bound by section 110 procedures. Both section 110 and EPA regulations require the approval of a 110 plan once it has met all of the requirements.[107] In fact, the EPA regulation suggests an interpreta-

101. *Id.* at 910-11.

102. *Id.* at 918.

103. *Id.* at 891.

104. *Id.* at 918.

105. *See* discussion *infra* Part VII.

106. *See* Alec C. Zacaroli, *Meeting Ambient Air Standards: Development of the State Implementation Plans*, *in* CAA HANDBOOK, *supra* note 23, at 43, 48-49.

107. *See* 42 U.S.C. § 7410(k)(3) (2012) (noting that "the Administrator shall approve such submittal as a whole if it meets all of the applicable requirements of this chapter"); 40 C.F.R. § 52.02(a) (2014) (noting that approval of "state plans" is based solely off of meeting the requirements of 110 and EPA regulations).

tion that the procedures of 110 govern 111.[108] Therefore, the EPA does not have the discretion to disapprove of a plan because it contains a carbon tax so long as it is otherwise complete.

VI. POLICY CONSIDERATIONS

A. The State of Energy Efficiency and Renewable Incentives in Florida

A carbon tax is essentially a consumption tax similar to those already levied on luxury items, like a sales tax and other mineral taxes.[109] However, instead of being taxed by the sheer amount of minerals, a carbon tax is based on the minerals' potential to emit GHGs.[110] Because the carbon content for all types and variations of fossil fuels is very well known, a tax on the amount of emitted GHGs expressed by dollar per ton of GHGs would be easily converted to an expression of emitted GHGs per mass/volume of fuel.[111] The tax could be levied at a variety of points: upstream, when the minerals are first extracted or imported; downstream, immediately before combustion; or at any point in between.[112]

The CPP also recommends that states adopt renewable energy incentives, energy efficiency programs, and a renewable energy portfolio. Florida currently has a solar rebate program[113] and a voluntary energy efficiency program under the Florida Energy Efficiency Conservation Act (FEECA).[114] However, a recent decision by the Florida Public Service Commission (FPSC) will hinder use of these two regu-

108. The regulation states: "Approval of a plan or any portion thereof is based upon a determination by the Administrator that such plan or portion meets the requirements of section 110 of the Act . . . ." 40 C.F.R. § 52.02(a) (2014). The word "plan" is undefined in the regulations but implies a definition wider than just 110 plans. *See id.*

109. SHI-LING HSU, THE CASE FOR A CARBON TAX 16-17 (2011); *see* Carbon Tax Act, S.B.C., 2008, c. 40 (Can.); *see also* FLA. STAT. §§ 206.9935-55 (2014) (taxing petroleum products for coastal protection purposes).

110. HSU, *supra* note 109, at 15.

111. *Id.*; *see* Carbon Tax Act, S.B.C., 2008, c. 40, pt. 2, sched. 1 (Can.) (noting that the different prices of taxes are based on a flat rate of carbon content, starting with $10 a ton in 2008).

112. HSU, *supra* note 109, at 15-16.

113. *See* Solar Energy Systems Incentives Program, FLA. STAT. § 377.806 (2014); FLA. POWER & LIGHT, CO., RESIDENTIAL PHOTOVOLTAIC PILOT PROGRAM STANDARDS, *available at* https://www.fpl.com/save/pdf/PV_Residential_Standards.pdf; *see also* Renewable Energy and Energy-Efficient Technologies Grant Program, FLA. STAT. § 377.804 (2014) (providing "grants for demonstration, commercialization, research, and development projects relating to renewable energy technologies").

114. Florida Energy Efficiency and Conservation Act, FLA. STAT. §§ 366.80-83 (2014). Energy efficiency in the United States has fallen behind that of some other developed nations. Western European countries and Japan are still more energy efficient. What this means is that the United States has reduced its emissions despite a lack of energy efficiency and that Florida has ample room to continue to make strides in energy efficiency, should it wish to do so. *See* GARY BRYNER & ROBERT J. DUFFY, INTEGRATING CLIMATE, ENERGY, AND AIR POLLUTION POLICIES 105 (2012).

latory programs to indirectly lower emissions.[115] The FPSC has decided to let the solar rebate program expire in 2015 and has also approved a plan to significantly reduce energy conservation goals.[116] FPSC prescribes utility-specific goals, for both residential and industrial/commercial energy use, over a ten-year period. For instance, Florida Power & Light's residential goals were revised from 1,695.3 GWh for 2010-2019 to 247.2 GWh for 2015-2024.[117] Electrical utilities have been accused of pressuring the FPSC into making these significant policy changes.[118] The FPSC's decision is so drastic that the state has passed a law to reform the FPSC.[119] While, by statute, FPSC must revisit the goals within five years,[120] the future of energy efficiency in Florida looks dim.

The decision of the FPSC has severely limited Florida's ability to achieve its emissions reductions goals through the use of renewable energy incentives and energy efficiency programs. The use of energy efficiency and renewable energy incentives are the focal point of CPP flexibility. Additionally, Florida does not have a renewable portfolio requirement. The FPSC has handicapped Florida from utilizing the full potential of the flexible portfolio approach to reducing emissions (at least until these policies can be amended again or reimplemented). That is why if Florida wishes to reduce emissions without enacting sole, direct emissions limitations on EGUs, Florida should implement a carbon tax as soon as possible. And once these policies are

115. *See* Memorandum from Div. of Eng'g., Div. of Econ., Office of the Gen. Counsel & Office of Indus. Dev. & Mkt. Analysis, to Office of Comm'n Clerk (Nov. 13, 2014) [hereinafter FPSC Memorandum], *available at* http://psc-fl.granicus.com/MetaViewer.php?view_id=2&clip_id=1327&meta_id=56594; Ivan Penn, *Florida Regulators Approve Plan to Gut Energy Efficiency Goals, End Solar Power Rebates*, TAMPA BAY TIMES (Nov. 25, 2014, 9:24 AM), http://www.tampabay.com/news/business/energy/florida-regulators-meet-to-decide-future-of-energy-efficiency-and-solar/2207845.

116. *See* FPSC Memorandum, *supra* note 115, at 6. The FPSC has also challenged the BSER used by the EPA and requested that the EPA not preempt state primacy. Comments to Gina McCarthy, Adm'r of EPA, re: Carbon Pollution Emission Guidelines for Existing Sources: Electric Utility Generating Units, from Art Graham, Chairman, Fla. Pub. Serv. Comm'n (Dec. 1, 2014), *available at* www.seealliance.org/wp-content/uploads/FPSC.pdf.

117. *In re: Commission Review of Numeric Conservation Goals (Fla. Power & Light Co.)*, Case No. 080407-EG (FPSC, Dec. 30, 2009); FPSC Memorandum, *supra* note 115, at 61.

118. *See, e.g.*, Anastasia Pantsios, *Pressured by Big Utilities, 'Sunshine State' Ends Solar Incentive*, ECOWATCH (Nov. 26, 2014, 3:59 PM), http://ecowatch.com/2014/11/26/florida-ends-solar-incentive/; Kyle Swenson, *Florida Regulators Gut the State's Solar Programs*, BROWARD/PALM BEACH NEW TIMES (Nov. 27, 2014), http://www.browardpalmbeach.com/news/florida-regulators-gut-the-states-solar-programs-6442871.

119. Mitch Perry, *Rick Scott Signs Bill Making Modest Reforms to Public Service Commission and Public Utilities*, SAINTPETERSBLOG (June 10, 2015), http://www.saintpetersblog.com/archives/232990; *see* H.R. 7109, 2015 Leg., Reg. Sess. (Fla. 2015); Ivan Penn, *Lawmakers File Bill to Reform Florida Public Service Commission*, TAMPA BAY TIMES (Dec. 5, 2014, 5:07 PM), http://www.tampabay.com/news/business/energy/lawmakers-file-bill-to-reform-florida-public-service-commission/2209155.

120. *See* FLA. STAT. § 366.82(6) (2014).

reimplemented or energy goals are revised again, a carbon tax can operate with them in tandem.[121] One of the main benefits of a carbon tax is that it can be implemented among multiple GHG-reducing regulatory remedies such as: renewable subsidies/incentives, tradable emission allowances (cap-and-trade), direct emissions reductions (command-and-control regulation), and energy efficiency projects.[122] The easy integration of a carbon tax with other policies is a result of its simple design and implementation. Therefore, Florida could have a wide portfolio, adopting some of the portfolio measures suggested by the CPP.[123] And if renewable energy incentives and/or FEECA are not reimplemented to reduce greenhouse gases, the carbon tax can be scaled to accomplish the GHG-reductions needed in lieu of the programs.

B. Comparing a Carbon Tax to Cap-and-Trade

Cap-and-trade programs are also touted as an option that reduces emissions at a cost comparable to the benefits of reducing them.[124] However, the costs of emission allowances in cap-and-trade have been known to vary widely.[125] Two examples of volatile emissions trading programs include the European Union Emissions Trading System and the trading of sulfur dioxide under the CAA.[126] Under a cap-and-trade system, a facility has to meet its emission allocations, but once it does, it is alleviated from any further reductions. Alternatively, a carbon tax incentivizes continued emission reductions, and the price can be adjusted to incentivize a specific emissions decrease.[127] In other words:

> Carbon taxes will induce firms to abate all emissions available at a cost no higher than the tax rate, because for any incremental abatement more costly than the tax, firms would find it more cost-effective to pay the tax. Thus, all EPA [or Florida] needs do is to determine the tax rate (or trajectory) equivalent to the marginal abatement cost imposed by the BSER on a covered source category.[128]

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121. The new energy efficiency goals were decided without considering the CPP and without accounting for the cost of carbon. *See* FPSC Memorandum, *supra* note 115, at 28-33. In contrast, prior goals were set by giving regard to the cost of carbon. *See id.*

122. *See* HSU, *supra* note 109, at 46; SUMNER ET AL., *supra* note 14, at 22; *see also* Matthias Kalkuhl et al., *Renewable Energy Subsides: Second-Best Policy or Fatal Aberration for Mitigation,* 35 RESOURCE & ENERGY ECON. 217 (2013) (finding that renewable energy subsidies, when implemented without any carbon pricing, lead to high welfare loss through increased energy prices but also finding that the implementation of carbon pricing and renewable energy subsides in tandem help mitigate welfare loss).

123. *See* Emissions Guidelines, *supra* note 1, at 34,848-50.

124. HSU, *supra* note 109, at 104-05.

125. WILLIAM NORDHAUS, A QUESTION OF BALANCE 153-54 (2008).

126. *Id.*

127. *See id.* at 59.

128. EISENBERG ET AL., *supra* note 16, at 12.

Additionally, when compared to cap-and-trade programs, carbon taxes are easier to design and implement and can be put into place more quickly.[129] For the CPP to reduce emissions in the long run, renewable energy use needs to increase drastically, and to accomplish that, the cost of fossil fuels needs to increase. One way to increase the price of fossil fuels is through a carbon tax.[130] So, a carbon tax and a renewable energy portfolio make a natural regulatory pair.[131] Furthermore, the revenue raised from the carbon tax could be invested into renewable energy sources.[132] Finally, projections have shown cap-and-trade of tradable emission permits (as opposed to auctioned permits) to be less efficient.[133] Based on projections, at a marginal abatement cost of $50/ton of carbon (not CO_2 emissions), a carbon tax can reduce emissions by almost 20%, whereas a tradable permit scheme would only reduce emissions by about 12%.[134]

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129. *See* BRYNER & DUFFY, *supra* note 114, at 58-59. *See generally* Reuven S. Avi-Yonah & David M. Uhlmann, *Combating Global Climate Change: Why a Carbon Tax Is a Better Response to Global Warming than Cap and Trade*, 28 STAN. ENVTL. L.J. 3 (2009) (exhaustively comparing a carbon tax and cap-and-trade and finally determining a carbon tax will better stop climate change).

130. A nationwide carbon tax could have the effect of increasing carbon output in other countries. This is called carbon leakage, and various models and studies have reached differing conclusions in the international context. *See, e.g.*, Harry Clarke, *Carbon Leakages, Consumption-Based Carbon Taxes and International Climate Change Agreements*, 29 ECON. PAPERS 156 (2010); Joshua Elliott et al., *Trade and Carbon Taxes*, 100 AM. ECON. REV. 465 (2010). Whether carbon leakage could result between states has not been studied.

131. *See* BRYNER & DUFFY, *supra* note 114, at 122 ("In addition, the environmental costs of developing and deploying renewable energy sources must be determined through life-cycle analyses so the true costs and benefits of alternatives can be compared. In addition to working through the challenges facing the development of each kind of renewable energy source, there are some crosscutting issues that must also be integrated. Two brief examples—securing sufficient capacity in transmission lines and energy technology research and development—illustrate some of these challenges.").

132. A similar concession has been suggested for use with British Columbia's carbon tax. *See British Columbia Carbon Tax Review*, 2012 TAX EXECUTIVE 393, 394 [hereinafter *B.C. Tax Review*], *available at* http://www.tei.org/news/articles/Documents/TTE_SO12_Sub_BCCTR.pdf ("Thus, TEI urges the Government of British Columbia to dedicate a portion of the revenues generated by the Carbon Tax to programs that encourage investment by businesses in clean technologies. These programs would provide a direct link between the Carbon Tax and efforts by industry to reduce GHG emissions. Examples of these incentives include investment tax credits for purchases of machinery and equipment powered by alternative fuels, PST exemptions, accelerated depreciation, Carbon Tax allowances, and other specifically targeted measures designed to encourage capital investments in cleaner technologies.").

133. *See* G. CORNELIS VAN KOOTEN, CLIMATE CHANGE ECONOMICS: WHY INTERNATIONAL ACCORDS FAIL 30-31 (2004).

134. *Id. See generally* ECONOMIC MODELLING OF CLIMATE CHANGE AND ENERGY POLICIES (Carlos De Miguel et al. eds., 2006) (modeling emissions reductions as a result of the EU trading scheme, which is a tradable system, not auction-based, in Spain).

C. A Multi-State Carbon Tax and Determining the Social Cost of Harm

A carbon tax can be scaled for a single state, a local province, a whole nation, or the entire international community.[135] Therefore, were Florida to implement a carbon tax, it could later integrate seamlessly with other states',[136] then British Columbia's,[137] and finally—other countries' taxes.[138] In fact, revenue raised among multiple countries instituting a carbon tax can be used to offset the regressive effects of the tax on poorer, developing countries.[139] The purpose of a carbon tax is to put a price on the amount of harm caused by GHGs (otherwise called a Pigouvian tax).[140] Considering that the EPA has calculated the socioeconomic cost of GHGs to be $39 per ton of emissions in 2015, based on a 3% discount rate,[141] that cost should be adopted by Florida and other states. Additionally, implementing a carbon tax based on that cost would indicate to consumers the economic and social cost of emitting GHGs.[142]

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135. *See* HSU, *supra* note 109, at 25.

136. As stated before, the CPP foresees and allows multi-state approaches. *See* Emissions Guidelines, *supra* note 1, at 34,834, 34,836-37, 34,851.

137. Carbon Tax Act, S.B.C. 2008, c. 40 (Can.).

138. *See* HSU, *supra* note 109, at 46 (acknowledging the difficulty in demarcating the limits of federal and state jurisdiction when concurrently regulating GHGs); *see also* SUMNER ET AL., *supra* note 14, at 8 (listing the various existing and proposed carbon taxes around the world).

139. NORDHAUS, *supra* note 125, at 157-61.

140. HSU, *supra* note 109, at 27.

141. EPA, THE SOCIAL COST OF CARBON (2013), *available at* http://www.epa.gov/climatechange/EPAactivities/economics/scc.html. The cost of carbon varies widely based on the discount rate, i.e., the rate at which paying an amount now will later be worth more. NORDHAUS, *supra* note 125, at 76. The EPA utilized the 3% discount rate in the CPP because the EPA believed it reflected the preference of most people to have money now rather than in the future. *See* Emissions Guidelines, *supra* note 1, at 34,839. *But see* NICHOLAS STERN, THE ECONOMICS OF CLIMATE CHANGE: THE STERN REVIEW 52-53, 183-85 (2007) (finding the discount rate to be 1.4% based off (elasticity of the marginal utility of consumption [1]) x (rate of economic growth [1.3]) + (decreasing rate of possibility of extinction [0.1])). For instance, most people would prefer to have more money now because of inflation or because you might die, you may have problems with delayed gratification, or you could invest in something right now.

142. *See* BRYNER & DUFFY, *supra* note 114, at 58-59; Marc B. Mihaly, *Recovery of a Lost Decade (or Is It Three?): Developing the Capacity in Government Necessary to Reduce Carbon Emissions and Administer Energy Markets*, 88 OR. L. REV. 405, 415 n.34 (2009); *see also* BRYNER & DUFFY, *supra* note 114, at 88 (discussing how a carbon tax would increase the competitiveness of nuclear power); HSU, *supra* note 109, at 34. Additionally, if Florida focused more on taxing carbon, as opposed to funding specific renewable technologies, there would be less of a concern with "rent seeking." *See id.* at 54-58; Dieter Helm, *Government Failure, Rent-Seeking, and Capture: The Design of Climate Change Policy*, 26 OXFORD REV. ECON. POL'Y 182, 186 (2010). Rent seeking is also possible, if not made worse, by a cap-and-trade system. *See* HSU, *supra* note 109, at 61. Because the carbon tax would only apply to fossil fuel-fired EGUs, it should contain no exemptions, unless an EGU implements carbon capture technology. However, Florida, like the rest of the United States, is decades away from commercial application of carbon capture technology.

However, because emitters currently do not consider the harm of emitting GHGs, any amount of a carbon tax would be economically efficient.[143] Even a modestly calculated cost of emissions would be economically efficient to the extent it sends a price signal where one otherwise would not be sent. Additionally, one of the other advantages of a carbon tax—that it can be instituted in tandem with other policies[144]—can help ensure that any unquantified harm would be otherwise ameliorated through another regulatory scheme. As stated earlier, the CPP requires states to implement direct emission limitations to EGUs. The command-and-control aspect of a state's plan could be the adequate margin of safety to ensure that any error in calculating the cost of carbon would not render the tax ineffective. Therefore, Florida could adopt the cost of carbon quantified by Nordhaus at about $7.50/ton of CO_2[145] and attempt to capture the remaining harm through command-and-control regulation and other portfolio measures (assuming they are amended to be effective). Alternatively, Florida could attempt to capture the vast quantity of the harm by adopting the Stern Review quantity of $85/ton of CO_2.[146] However, predominately using the carbon tax to capture the harm would negate one of the main benefits of a carbon tax: that it can be implemented among multiple regulatory tools.[147] Additionally, it would negate the flexibility afforded to Florida and other states by the CPP: the flexibility to implement multiple policy tools, both direct and indirect.[148] For that reason, it would be more efficient to adopt the middle-ground price adopted by the EPA: $39/ton of CO_2[149] and capture any additional harm through energy efficiency and renewable energy sources but also require direct emission limitations as a safety net (and because it is required). Adopting the EPA's model should also facilitate the plan review process.[150]

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143. *See* HSU, *supra* note 109, at 29.

144. *See* discussion *supra* Part VI.A.

145. *See* NORDHAUS, *supra* note 125, at 90.

146. *See* STERN, *supra* note 141, at 344, 590-91.

147. *See* HSU, *supra* note 109, at 46.

148. *See id.*; SUMNER ET AL., *supra* note 14, at 22.

149. *See* sources cited *supra* note 141.

150. The EPA may conditionally approve SIPs (and by reference § 111(d) plans) so long as a state makes EPA-required changes by the statutory deadline: within one year of making a completeness finding. 42 U.S.C. § 7410(k)(4) (2012). However, the EPA only has within sixty days of receiving a SIP to make its determination of completeness. *Id.* § 7410(k)(1). The Court in *Natural Resources Defense Council v. EPA* held that the EPA, when conditionally approving a SIP, cannot suspend the one-year deadline a state has in which to make the required changes to its SIP. 22 F.3d 1125, 1134-35 (D.C. Cir. 1994). Furthermore, the EPA cannot conditionally approve SIPs that, absent any substantive remedial measures, only contain a commitment by the state to implement changes within a year. *Id.* at 1133-35. In short, the SIP has to be in a "regulatory" form. Zacaroli, *supra* note 106, at 47. While the holding of *Natural Resources Defense Council* extended only to inspection and

D. Carbon Tax Compatibility with Command-and-Control Regulation

As stated before, the CPP will require Florida and other states to adopt direct emission limitations, which can be accomplished through traditional command-and-control regulation. Normally, the adoption of command-and-control regulations can conflict with a carbon tax because it sends uneven price signals.[151] However, this is predominately the case when command-and-control regulations apply to different industries. In the case of the CPP, the command-and-control aspect would only be applied to existing stationary EGUs. Therefore, any uneven price signaling should be minimized. The combination of a command-and-control requirement in the form of a "cap" and a carbon tax can be referred to as a "cap-and-tax."[152]

> The cap-and-tax system would share some of the strengths and weaknesses of each of the two polar cases. It would not have firm quantitative limits like a pure cap-and-trade system, but the quantitative limits would guide firms and countries and would give some confidence that the climatic targets were being achieved. The hybrid would have some but not all of the advantages of a carbon-tax system. It would have more favorable public-finance characteristics, it would reduce price volatility, it would mitigate the incentives for corruption, and it would help deal with uncertainties. The narrower the band between the tax and the safety-valve price, the more it has the advantages of a carbon tax; the wider the band, the more it has the advantages of a cap-and-trade system.[153]

VII. IMPLEMENTING A CARBON TAX IN FLORIDA

Fuel taxes are currently levied on natural gas and other petroleum products when imported into or produced from Florida.[154] Coal, however, is not taxed.[155] A new bill created a taxing scheme for natural gas when used as a motor fuel;[156] but, the taxes do not take effect until January 1, 2019. Therefore, natural gas, when used as a motor

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maintenance plans within SIPs, the EPA has interpreted the case to apply to all elements of a SIP. *Id.* The EPA will only consider SIPs complete if at least 80% of the commitments are in regulatory form. *Id.*

151. *See* HSU, *supra* note 109, at 34.

152. *See* NORDHAUS, *supra* note 125, at 162-64.

153. *Id.* at 164.

154. FLA. STAT. §§ 206.9935-.9955 (2014). These taxes are levied to protect the coast. *Id.*

155. *Id.*

156. *See* H.R. 579, 2013 Leg., Reg. Sess. (Fla. 2013) (creating Part V of Chapter 206, Fla. Stat.); FLA. DEP'T OF REVENUE, LAW CHANGES AFFECTING NATURAL GAS FUEL RETAILERS (2013), *available at* https://revenuelaw.state.fl.us/LawLibraryDocuments/2013/11/TIP-117834_TIP%2013B05-04%20Natural%20Gas%20Fuel%20Retailers%20%20TIP%20FINAL2.pdf.

vehicle fuel, is exempt from those fuel taxes for five years.[157] The fuel exemption is meant to facilitate the conversion of vehicles from using gasoline as a fuel to using natural gas as a fuel.[158] The bill subsidizes the conversion by creating a rebate program.[159]

The simplest way to implement a carbon tax would be to amend the tax applying to all petroleum products so it would also include coal and to increase the tax to reduce emissions based on economic modeling.[160] The tax applying to natural gas used as motor vehicle fuel should remain unaffected because motor vehicle emissions are not included in the CPP; they are regulated under the CAA mobile source program.[161] Natural gas, when it is imported through the pipelines, is used for both stationary and mobile sources. Taxing at the point of import may incidentally lead to taxation of natural gas to be used for mobile sources. Therefore, taxing should take place at the actual source: the EGU.

Florida's carbon tax program could tax fuels based on the relative amount of carbon in each type of fuel, which is what British Columbia (B.C.) does.[162] B.C.'s carbon tax makes the tax payable upon purchase or final use of fuel.[163] Additionally, B.C. makes the tax payable upon importation as well, but the tax is the same regardless.[164] Basing the tax on carbon content would also have the beneficial effect of incentivizing the use of lower carbon content fossil fuels, in addition

157. *See* H.R. 579.

158. *Id.*

159. *Id.*

160. On the matter of how to incorporate a carbon tax into existing fuel taxes, consider this approach:

> One approach would be to calculate the next taxation of carbon fuels, including all [existing] taxes and subsidies on energy products, but not to go beyond this to indirect, embodied impacts outside exceptional cases. . . . There would of course be many technical issues, such as how to convert energy taxes into their carbon equivalent. Some of the calculations involve conversion ratios (from coal or oil to carbon equivalent) that underpin any control system. Others require input-output coefficients, which might not be universally available on a timely basis. On the whole calculations of effective carbon-tax rates are straightforward as long as they do not involve indirect or embodied emissions.

NORDHAUS, *supra* note 125, at 161-62. The level of the tax depends on the socio-economic cost of carbon. *See* HSU, *supra* note 109, at 27-28. The different available costs are discussed *infra* Part VI.

161. Mobile GHG Rule, *supra* note 22. The new limitations, announced under President Obama's National Fuel Efficiency Policy, will lower emissions by setting minimum fuel efficiency standards, which should reach 35.5 MpG in 2016 for light-duty vehicles. *Id.*; *see also* 42 U.S.C. § 7545(c)(4)(A), (B) (2012).

162. Carbon Tax Act, S.B.C. 2008, c. 40 (Can.). A bill was introduced in the U.S. Congress in 2007 that would have taxed coal, oil, and natural gas based on the carbon content of those fuels. Save Our Climate Act of 2011, H.R. 3242, 112th Cong. (2011).

163. Carbon Tax Act, S.B.C. 2008, c. 40, pt. 3 (Can.).

164. *Id.* § 10.

to reducing overall fossil fuel consumption.[165] Alternatively, the emissions themselves could be taxed, incentivizing the use of technology to reduce and trap emissions. However, currently the only method, with commercial application, of reducing emissions from coal at existing EGUs is to lower the heat rate at which coal is burned.[166] As stated before, heat rate improvements are the first building block of the BSER and, by the EPA's estimates, are only capable of reducing emissions by 6%.[167] The 6% reduction by heat rate improvements would likely be absorbed by the direct emission limitations required under the CPP.[168] Furthermore, heat rate improvements have been found to be the BSER for reconstructed and heavily modified EGUs under 111(b).[169] Therefore, taxing emissions would have almost the same effect as taxing carbon content, at least for now. In the future, carbon capture and sequestration (CCS) technology could be improved and implemented on a wide, commercial scale.[170] For instance, a new pilot plant has endeavored to begin capturing CO_2 as early as next year for a period of six months.[171] Whereas most CCS technologies capture CO_2 at the point of release, this plant will remove it directly from the ambient air.[172] To incentivize the continued development of CCS technology, emissions should be taxed at the source: the EGU.

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165. *See* HSU, *supra* note 109, at 65-76.

166. *See* HASLER, *supra* note 68. Current studies estimate that heat rate improvements could reduce emissions from a range of less than 5% to greater than 15%. EPA V5.13 BASE CASE DOCUMENTATION APPENDIX: HEAT RATE IMPROVEMENT OPTION, *available at* http://www.epa.gov/airmarkets/documents/ipm/HRI%20Appendix.pdf. Under the CPP, the EPA estimates heat rate improvements, on average, can reduce emissions by 6%. EPA BASE SUPPLEMENT, *supra* note 68.

167. *See* Emissions Guidelines, *supra* note 1, at 34,851; EPA BASE SUPPLEMENT, *supra* note 68; *see also* sources cited *supra* note 68.

168. Emissions Guidelines, *supra* note 1, at 34,835.

169. Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 1430, 1430 (Jan. 8, 2014) [hereinafter Standards].

170. *See generally* Steven Chu, *Carbon Capture and Sequestration*, 325 SCI. 1599, 1599 (2009) (addressing the need to develop carbon capture and sequestration technology); John Pendergrass et al., *Carbon Capture and Sequestration in Practice*, 40 ENVTL. L. REP. 10,471 (2010). Carbon capture and sequestration technology was also the BSER for the section 111(b) rule for new sources. Standards, *supra* note 169.

171. *See* Joshua Learn, *Pilot Plant Will Begin Sucking CO2 from Thin Air Early Next Year*, E&E REP. (Nov. 4, 2012), http://www.eenews.net/climatewire/2014/11/04/stories/1060008319 ("[T]he machine will suck 550 to 1,100 tons of CO2 out of the atmosphere every year, roughly equivalent to the emissions of 150 cars at maximum capacity. But it's only a small fraction of the 550,000 to 1 million tons the company will need to remove to make a larger plant commercially feasible on the carbon credit market in California and other places as they develop.").

172. *See id.* ("It involves repurposed cooling tower technology that captures CO2 into a chemical solution. With technology borrowed from water treatment plants, this solution is then converted into calcium carbonate pellets. These pellets are heated back up in a lime kiln and release pure CO2, which is then captured.").

A. Addressing Regressiveness

Florida should model B.C.'s tax to the extent that it ensures the government does not profit from the taxes.[173] B.C. government reduces income and corporate taxes each time it increases the tax.[174] As designed, the tax increases each year,[175] so income and corporate taxes have decreased each year as well.[176] In deciding how to appropriate the tax after collection, states have multiple options[177]:

1. Budget deficit reduction;[178]
2. Distribute it as a lump sum to each household;[179]
3. Reduce personal income taxes;[180] and
4. Reduce corporate income taxes.[181]

The first option would not be revenue-neutral and would most likely make the prospect of a carbon tax even harder to digest, politically. The second option could be traditionally economical in the sense that people receiving money tend to spend it, therefore stimulating the economy.[182] The last two options, together, have worked well for B.C.[183] However, Florida does not have a personal income tax.

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173. Carbon Tax Act, S.B.C. 2008, c. 40, § 2(2) (Can.) ("In this Part, the carbon tax is revenue neutral if the dollar amount of the carbon tax collected in a fiscal year is less than or equal to the estimated dollar amount of the reduction in Provincial revenues in the same fiscal year as a result of revenue measures.").

174. *See B.C. Tax Review*, *supra* note 132; Ross Beaty et al., *The Shocking Truth About B.C.'s Carbon Tax: It Works*, THE GLOBE & MAIL (July 9, 2014, 6:00 AM), http://www.theglobeandmail.com/globe-debate/the-insidious-truth-about-bcs-carbon-tax-it-works/article19512237/.

175. *See* Carbon Tax Act, S.B.C. 2008, c. 40, sched. 1 (Can.) (noting that the different prices of taxes are based on a flat rate of carbon content, starting with $10 a ton in 2008).

176. P.F., *British Columbia's Carbon Tax: The Evidence Mounts*, ECONOMIST (July 31, 2014, 12:55), http://www.economist.com/blogs/americasview/2014/07/british-columbias-carbon-tax; *see also* Beaty et al., *supra* note 174.

177. For a more exhaustive list of distributive options, see Robert B. McKinstry, Jr. et al., *Incentive-Based Approaches to Greenhouse Gas Mitigation in Pennsylvania: Protecting the Environment and Promoting Fiscal Reform*, 14 WIDENER L.J. 205, 219 (2004).

178. *See* Adam Rose, *Greenhouse Gas Mitigation Action Planning: An Overview*, 12 PENN. ST. ENVTL. L. REV. 153, 164 (2004).

179. Glenn Wiser, *Joint Implementation: Incentives for Private Sector Mitigation of Global Climate Change*, 9 GEO. INT'L ENVTL. L. REV. 747, 761 (1997).

180. *See* Rose, *supra* note 178, at 164.

181. *See, e.g.*, Gilbert E. Metcalf, *Designing a Carbon Tax to Reduce U.S. Greenhouse Gas Emissions*, 3 REV. ENVTL. ECON. & POL'Y 63 (2009); Rose, *supra* note 178, at 164.

182. The Cantwell-Collins bill was a cap-and-trade bill that sought to recycle revenues back to households with lump sum payments as well. Carbon Limits and Energy for America's Renewal (CLEAR) Act, S. 2877, 111th Cong. § 5 (2009).

183. *See B.C. Tax Review, supra* note 132; Kathryn Harrison, *The Political Economy of British Columbia's Carbon Tax* 10 (OECD Env't Working Paper No. 63, 2013), *available at* http://www.oecd-ilibrary.org/environment-and-sustainable-development/the-political-economy-of-british-columbia-s-carbon-tax_5k3z04gkkhkg-en; Beaty et al., *supra* note 174.

Florida would not be able to perfectly emulate B.C., but it could reduce corporate income taxes instead. In fact, reducing corporate income taxes has been shown to best stimulate the economy.[184] Furthermore, reductions in the corporate income tax rate would be incorporated into the electrical utility rate of $/MWh,[185] that is, a reduction in the corporate income rate would cause the utility to incur fewer expenses. Lowering the corporate income tax would stimulate the economy and make fiscal conservatives more likely to support a carbon tax.[186]

A tax has a regressive effect when it burdens those individuals with less ability to pay more than those individuals with a greater ability to pay. In other words, the burden increases as ability-to-pay decreases. In practice, a carbon tax, because it would equally affect all household users of power, would be more costly for lower-income individuals because electricity use takes up a larger fraction of their budget.[187] Therefore, a carbon tax would be regressive despite that it would be written as a flat rate. Although, some studies have shown that federal bills assigning a price to carbon, like different cap-and-trade bills, can alleviate the regressive effects of the price through revenue redistribution,[188] in the manners described above.[189] The similarities between a carbon tax and cap-and-trade are significant for this purpose because they both send price signals and require the utility to incur costs. Regressiveness can be alleviated to some extent by levying the tax on the EGU, as opposed to the end-user of power.[190] There were greater concerns with the B.C. carbon tax regressiveness because gasoline users would pay the tax at the pump.[191]

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184. *See* Francesco Bosello et al., *The Double Dividend Issue: Modeling Strategies and Empirical Findings*, 6 ENV'T & DEV. ECON. 9, 9-11 (2001); McKinstry et al., *supra* note 177, at 225-26.

185. *See* Gulf Power Co. v. Bevis, 289 So. 2d 401, 404 (Fla. 1974) (requiring that ratemaking account for the increase in the corporate tax rate).

186. *See* Gilbert E. Metcalf, *Corporate Tax Reform: Paying the Bills with a Carbon Tax*, 35 PUB. FIN. REV. 440, 456 (2007).

187. HSU, *supra* note 109, at 124.

188. Sebastian Rausch et al., *Distributional Implications of Alternative U.S. Greenhouse Gas Control Measures* 39-41 (Nat'l Bureau of Econ. Research, Working Paper No. 16053, 2010). *See generally* Ian A. MacKenzie & Markus Ohndorf, *Cap-and-trade, Taxes, and Distributional Conflict*, 63 J. ENVTL. ECON. & MGMT. 51 (2012) (finding that the extent of revenue recycling needed to mitigate tax regressiveness depends on numerous factors and that in some situations no revenue recycling is optimal).

189. *See supra* notes 178-83. *See generally* McKinstry et al., *supra* note 177, at 219 (discussing a wider variety of revenue recycling options).

190. *Cf.* McKinstry et al., *supra* note 177, at 135 (discussing how a study found that carbon pricing bills have a greater regressive effect on the generators of power themselves, even when the price is paid by the final user of power). If those prices have a greater regressive effect on the industry, then a tax that is levied on the industry directly should further insulate the regressive effect from the final user of power. *Id.*

191. Carbon Tax Act, S.B.C. 2008, c. 40, § 11 (Can.); Chris Mooney, *British Columbia Enacted the Most Significant Carbon Tax in the Western Hemisphere. What Happened Next*

Despite those concerns, the carbon tax in B.C. has been heralded as a success.[192] If the B.C. carbon tax, which had a wider range of fuel sources and a more direct impact on end-users of power, was successful, then the narrower and less direct Florida carbon tax should be just as successful—if not more so. However, the tax could still be regressive if utility companies raise their rates to recoup the costs of a carbon tax. Utilities in Florida are regulated by the FPSC, which has to approve any rate increases in Florida.[193] The second option described above, distributing a lump sum payment, could make the tax progressive instead of regressive.[194] A tax is progressive when the rate/burden increases as a taxpayer's ability to pay increases. The level of progressiveness of the tax would have to depend on to whom the lump sum goes, and how much. Should it be scaled by income level? Or electricity use compared to income level? As callous as it sounds, it may be better to distribute a lump sum payment independent of electricity usage because conditioning payment on a large use of electricity relevant to income would discourage energy efficiency.

In determining the rate electrical utilities should charge customers, the FPSC utilizes the formula: R = O + (V-D)r, that is, the revenue earned by a utility must equal its operating costs plus the quantity of the allowed rate of return multiplied by the quantity of gross value of tangible and intangible property minus the accrued depreciation of property.[195] When a utility petitions for a rate increase, it will have the opportunity to include the cost of the carbon tax in its operating costs.[196] However, other factors will also apply. For instance, these utilities will likely utilize renewable energy sources to meet any direct emission limitations prescribed by the Florida Department of Environmental Protection and the EPA. These renewable energy sources will be accompanied with federal government subsidies to lower costs.[197] Furthermore, despite the expiration of the solar rebate

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Is It Worked., MOTHER JONES (Mar. 26, 2014, 5:00 AM), http://www.motherjones.com/environment/2014/03/british-columbia-carbon-tax-sanity.

192. *See, e.g.*, sources cited *supra* note 183.

193. FLA. STAT. § 366.07 (2014); FLA. ADMIN. CODE ANN. r. 25-6.0425 (2014).

194. *See* Mireille Chiroleu-Assouline & Mouez Fodha, *From Regressive Pollution Taxes to Progressive Environmental Tax Reforms*, 69 EUR. ECON. REV. 126 (2014).

195. *See* JOSEPH P. TOMAIN & RICHARD D. CUDAHY, ENERGY LAW IN A NUTSHELL 182-83 (2d ed. 2011).

196. *Cf.* Jane Andrew et al., *Carbon Tax: Challenging Neoliberal Solutions to Climate Change*, 21 CRITICAL PERSP. ON ACCT. 611, 615 (2010) (finding that utilities had included the cost of participating in the SO2 cap-and-trade system in their operating expenses).

197. *See* Federal Incentives/Policies for Renewable Energy and Energy Efficiency, DATABASE OF ST. INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE), http://programs.dsireusa.org/system/program?state=US (last visited May 5, 2015) (listing all of the renewable energy programs and tax incentives at the federal level as well as all of the energy efficiency programs and tax incentives at the federal level). The same can be

program, other renewable energy incentives exist.[198] In setting rates, the FPSC must account for taxes that will affect future rates, but this should include both the carbon tax and any tax breaks that result from investing in renewables.[199] Furthermore, assuming that the total amount of the tax as applied to the total amount of fossil fuels will be passed onto consumers misunderstands the intent of the carbon tax. The tax is intended to capture the cost of carbon in a way that reduces emissions at a cost comparable to the benefit of reducing emissions.[200] If the amount of the tax is appropriate, then consumption of fossil fuels by EGUs will decrease in an economically efficient manner. Then, overtime, the utilities can substitute the use of fossil fuels with renewables. In fact, the EPA has projected that residential electricity bills will decline by 9% in 2030 due to energy efficiency measures.[201] Additionally, the legislature could amend FEECA to provide for an energy efficiency tax holiday. For instance, for a whole year residents could receive a sales tax rebate or exemption on purchases of certain energy efficient products. That way, Florida could not only include the emissions reduced as a result of the tax holiday in its plan but also help alleviate the regressive effects of the carbon tax.

Lastly, rate increases do not occur in a vacuum. There is an extensive process that allows for extensive public involvement. Before setting a new rate, the Public Service Commission must hold a public hearing in the electrical utility's sector.[202] At the hearing, all interested members of the public have the opportunity to present comments, concerns, and ask questions.[203] Furthermore, the legislature appoints a Public Counsel to represent the public at the public hear-

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said of end-users of power who utilize energy efficiency programs. *See* Florida Incentives/Policies for Energy Efficiency and Renewable Energy, DATABASE OF ST. INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE), http://programs.dsireusa.org/system/program?state=FL (last visited May 5, 2015) (listing all of the energy efficiency programs and tax incentives at the state level).

198. *See* Florida Incentives/Policies for Energy Efficiency and Renewable Energy, *supra* note 197.

199. *See* Gulf Power Co. v. Bevis, 289 So. 2d 401, 404 (Fla. 1974) (requiring that ratemaking account for the increase in the corporate tax rate).

200. *See* HSU, *supra* note 109, at 65-76. In other words:

> [T]he key aim of climate-change policy should be to ensure that those generating GHGs . . . face a marginal cost of emissions that reflects the damage they cause. This encourages emitters to invest in alternative, low-carbon technologies, and consumers of GHG-intensive goods and services to change their spending patterns in response to the increase in relative prices.

STERN, *supra* note 141, at 353.

201. Emissions Guidelines, *supra* note 1, at 34,934; EPA FAQ, *supra* note 2, at 18.

202. FLA. STAT. § 366.06(2) (2014).

203. *See Overview and Key Facts*, FLA. PUB. SERV. COMM'N, http://www.psc.state.fl.us/about/overview.aspx (last visited May 5, 2015) [hereinafter FPSC, *Key Facts*].

ings.[204] After the public hearings, the Public Service Commission holds a technical hearing where they hear arguments from technical experts.[205] The Public Counsel also represents the public at the technical hearing.[206] Finally, a last option is to actually amend the way rates are determined. The statute could be amended to prevent the full cost of complying with Florida's plan to be passed onto ratepayers. [207]

Regardless of all of the possible solutions to the regressiveness of a carbon tax, regressiveness is not unique to a carbon tax. For instance, were an emissions limit simply applied to utilities, that limit would be accompanied with a cost that would make its way into the rate base described above. The same would be true of the cost of capping emissions under a cap-and-trade scheme. The focus then should not be on the regressiveness of the various performance standards but on how best to reduce the effects of regressiveness on ratepayers.

VIII. CONCLUSION

The Clean Power Plan will satisfy President Obama's commitment to reduce U.S. emissions. But, in using section 111(d), the EPA will have to rely on states to implement policies to reach the emissions goals. The policies that states may implement should drive EGUs to utilize the technologies and methods the EPA has determined are the BSER. The CPP provides states considerable flexibility in the policies they may choose: encapsulating either direct emission limitations or direct emission limitations and a portfolio of indirect emissions reduction programs.

One such program Florida can and should implement is a carbon tax. Both 111(d) and the CPP support a carbon tax as one of the portfolio policies to indirectly reduce emissions. Considering the FPSC's recent decision to end the solar rebate program and to significantly reduce energy efficiency goals, a carbon tax may be the sole method Florida has to reduce emissions indirectly, initially. And when the energy efficiency goals are revised again to be effective at reducing emissions, they can co-exist with a carbon tax. A carbon tax is also better suited to reduce emissions than a cap-and-trade program because of the system set in place by the CPP. Fuel taxes already levied on natural gas in Florida also support the implementation of a carbon tax.

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204. FLA. STAT. § 350.0611(1) (2014).

205. *See* FPSC, *Key Facts*, *supra* note 203.

206. *Id.*

207. *See* Whealdon, *supra* note 16, at 13 (proposing a construction of the tax that would alleviate the concern of social scientists who believe a carbon tax would be regressive).

However, regressiveness is an actual, concrete negative effect a tax imposes on society. But any control measure is likely to be regressive, and FPSC rate-setting policies should help ensure that a rate is reasonably set. Additionally, if the FPSC reform bill gains ground and passes, that should also help alleviate industry pressure during ratemaking proceedings. Carbon tax revenue can be recycled to help alleviate regressive effects. British Columbia has utilized this option as a way to stimulate its economy as well. Lastly, in part because of energy efficiency measures, the EPA foresees a drop in electrical rates by 2030. However, the most compelling reason to implement a carbon tax may be the great success B.C. has had in reducing emissions: a 9.9% decline in emissions in two years.[208]

208. SUSTAINABLE PROSPERITY, *supra* note 12, at 12.