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The Sun Doesn't Always Shine in Ohio: Reevaluating Renewable Portfolio Standards in Light of Changed Conditions

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NOTE

THE SUN DOESN'T ALWAYS SHINE IN OHIO: REEVALUATING RENEWABLE PORTFOLIO STANDARDS IN LIGHT OF CHANGED CONDITIONS

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In 2014, with the signing of Senate Bill 310 (S.B. 310), Ohio became the first state to put a temporary "freeze" on its renewable portfolio standard (RPS) and energy efficiency mandates. The law has generated nationwide attention and been criticized as a step back in the state's clean energy policy. This Note examines the central justifications for the passage of S.B. 310, challenging conventional wisdom that the law does not serve the interests of Ohio citizens. After the passage of Ohio's RPS in 2008, the economic and energy landscape within the state changed dramatically, due in large part to technological advances allowing for the development of the state's large natural gas deposits. In order to fully assess these changed conditions, as well as the economic impact the energy mandates were having on ratepayers, Ohio lawmakers passed S.B. 310. While renewable resource advocates argue that increased renewable energy benefits the state of Ohio, this Note argues that S.B. 310 was an example of prudent lawmaking and should serve as a model for other states that have undergone changes in their energy landscape and economic situation since implementing their renewable portfolio standards.

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INTRODUCTION

America's energy policy is undergoing rapid change. From the emergence of plentiful domestic sources of natural gas to environmental regulations which will have profound impacts on the way electricity is generated, the nation's energy landscape is transforming rapidly and policymakers are struggling to keep up.[1] When designing long-term energy strategies, policymakers must consider a number of competing interests, a task that is complicated during times of contentious policy revision.[2] Often, regulators are forced to balance two seemingly incongruent goals, such as ensuring affordable and reliable electricity while simultaneously promoting reduced emissions from electricity generation.[3] The burden of this precarious regulatory balancing act has fallen largely on states.[4]

States have attempted to address concerns about global warming, greenhouse gas emissions reductions, and domestic energy independence through a variety of approaches.[5] Perhaps the most widely adopted mechanism to address these concerns is the renewable portfolio standard (RPS). RPSs are state statutes that require investor-owned utility companies, or as they are referred to in Ohio, Electric Distribution Utilities (EDUs),[6] to incorporate a specified percentage of electricity from designated renewable power

1. FRED BOSSELMAN ET AL., ENERGY, ECONOMICS AND THE ENVIRONMENT 875 (Robert C. Clark et al. eds., 3d ed. 2010).
2. Nathan E. Endrud, Note, *State Renewable Portfolio Standards*, 45 HARV. J. ON LEGIS. 259, 259 (2008).
3. *Id.*
4. *See id.*
5. *Id.*
6. *See* OHIO REV. CODE ANN. § 4928.01(A)(6) (LexisNexis 2014).

sources into their fuel mix.[7] An RPS mandate is typically intended to "help make electricity generated from renewables economically competitive with that generated from fossil fuels."[8] To date, twenty-nine states have implemented an RPS.[9]

While states differ in their implementation strategies, such as what qualifies as a "renewable resource"[10] and what percentage of electricity must be derived from these resources, the common theme behind RPSs is the increased use of renewable energy for electricity generation.[11] Even though RPSs are an effective means of achieving "green" policy objectives, such as reducing emissions from fossil fuel powered generation facilities and diversifying fuel mixes, they can be highly contentious, primarily due to their impact on electricity costs.[12]

In 2008, Ohio passed Senate Bill 221 (S.B. 221) with nearly unanimous support from both houses,[13] making it the twenty-sixth state to establish an RPS.[14] S.B. 221 was primarily intended to stabilize electricity rates during a time of commodity price volatility and provide the added benefit of decreased dependence on fossil fuels.[15] After 2008, however, the economic and energy landscape within Ohio changed dramatically, due in large part to technological advances allowing for the development of the state's large natural gas deposits.[16] In 2014, on the back of an improving economy and newfound domestic energy options, Ohio thus became the first state to put a

7. BOSSELMAN ET AL., *supra* note 1, at 875.

8. *Id.*

9. *Id.* at 876.

10. Generally, renewable resources are "those that can be replaced or renewed without contributing to global warming or other substantial environmental impacts." *Id.* at 834. Five types of renewable energy are considered most viable: wind, solar (photovoltaic), biomass, geothermal, and hydroelectric. *See id.* at 834–66.

11. *See id.* at 877.

12. Patrick R. Jacobi, Note, *Renewable Portfolio Standard Generator Applicability Requirements: How States Can Stop Worrying and Learn to Love the Dormant Commerce Clause*, 30 VT. L. REV. 1079, 1084 (2006).

13. *See* Ben Peyton, *Five Year Anniversary of Senate Bill 221 – Ohio's Groundbreaking Renewable Energy Standards*, INNOVATION OHIO (May 9, 2013), http://innovationohio.org/2013/05/09/five-year-anniversary-of-senate-bill-221-ohios-groundbreaking-renewable-energy-standards/.

14. *Ohio Becomes 26th State to Create Renewable Portfolio Standard*, SUSTAINABLEBUSINESS.COM (Apr. 28, 2008, 8:49 PM), http://www.sustainablebusiness.com/index.cfm/go/news.display/id/15890.

15. Senate Floor Debate, May 7, 2014, 130th Gen. Assemb., Reg. Sess. (Oh. 2014) (statement of Sen. Shannon Jones) (video recording), http://www.ohiochannel.org/MediaLibrary/MediaLibraryEmbed/OhioSenate/Media.aspx?fileId=143636.

16. *See* John Funk, *Ohio Shale Gas Production Beginning to Look Like a Boom*, CLEV. PLAIN DEALER (July 2, 2014, 12:59 PM), http://www.cleveland.com/business/index.ssf/2014/07/ohio_shale_gas_production_begi.html.

freeze on its RPS mandate, a mere five years after the law took effect.[17] That two-year suspension, enacted in Senate Bill 310 (S.B. 310), has generated nationwide attention and garnered significant criticism.

This Note argues that, despite widespread criticism, Ohio's reexamination of its RPS policy is an example of prudent lawmaking in light of changed conditions. Part I provides background into RPS standards generally and explains the nuances of the original Ohio RPS. Part II explains the changes S.B. 310 made to Ohio's original RPS standards. Part III examines potential motivations for the passage of S.B. 310 and concludes that the underlying economic and environmental conditions within the state necessitated a reexamination of its electricity policy. Finally, Part IV, argues that the moratorium was not only prudent for Ohio but also should serve as a model for other states when reevaluating their RPSs in light of changing domestic energy and economic conditions.

I. History of Ohio Senate Bill 221

Concerns about global warming, greenhouse gas emissions reductions, and domestic energy independence have spurred intense debate about how states should balance economic development and environmental responsibility when regulating electricity generators.[18] In 2008, in an attempt to balance these concerns, Ohio passed S.B. 221, a comprehensive and aggressive electricity reform bill which contained both supply-side and demand-side mandates.[19] On the demand side, the bill imposed an Energy Efficiency Resource Standard (EERS).[20] An EERS is a mandate that electrical utility companies implement energy efficiency programs to reduce customer electricity usage by a specified percentage each year.[21] On the supply side, the

17. *See* Maria Gallucci, *Ohio Gov. Kasich to Sign "Freeze" on State Clean Energy Mandate by Saturday*, Int'l Bus. Times (June 11, 2014, 2:56 PM), http://www.ibtimes.com/ohio-gov-kasich-sign-freeze-state-clean-energy-mandate-saturday-1598602.

18. *See, e.g.*, Endrud, *supra* note 2, at 259.

19. *See* S.B. 221, 127th Gen. Assemb., Reg. Sess. (Oh. 2008), 2008 Ohio Laws 792 (codified as amended at Ohio Rev. Code Ann. §§ 9, 4905, 4928, 4929 (LexisNexis 2014)).

20. *Id.*

21. *Energy Efficiency Resource Standard (EERS)*, Am. Council for an Energy-Efficient Econ., http://aceee.org/topics/energy-efficiency-resource-standard-eers (last visited Feb. 12, 2015). It should be noted that there is a distinction between energy efficiency and energy conservation. Energy efficiency measures generally refer to technological advances which result in less energy consumption for the same amount of utility (such as an energy efficient light bulb). In contrast, energy conservation reduces energy use by simply using less energy and thus losing utility (such as turning the lights off while watching television). For a discussion of these differences, see Brandon Hofmeister, *Bridging the Gap: Using Social Psychology to Design Market Interventions to Overcome the Energy Efficiency Gap in Residential Energy Markets*, 19 Southeastern Envtl. L.J. 3, 7 (2010).

bill imposes an RPS mandate that requires retail sellers of electricity to provide a specified amount of electricity from renewable energy sources.[22]

A. *Ohio's Renewable Portfolio Standard*

Ohio's RPS mandated that, by 2025, at least 25% of the electric supply come from defined "alternative energy resources,"[23] of that, 12.5% and 0.5% were required to come from "renewable resources" and "solar resources," respectively.[24] Like many states, Ohio phased in its RPS mandate over time, increasing the required percentage of renewable generation annually.[25] Beginning in 2009, 0.25% of Ohio's electricity had to be generated from renewable energy resources, and this percentage increased annually until 2025 when the generation requirement reached 12.5%.[26] Finally, at least half of the renewable energy resources implemented by the utility had to "be met through facilities located in this state,"[27] the so-called in-state mandate.

EDUs can satisfy the renewable energy mandate by operating a qualifying renewable energy facility located within the state, by purchasing renewable energy generated by another's facility, or by purchasing Renewable Energy Credits[28] from a qualifying renewable energy generator.[29] Each

22. *See* NANCY RADER & SCOTT HEMPLING, NAT'L ASS'N OF REGULATORY UTIL. COMM'RS, THE RENEWABLES PORTFOLIO STANDARD: A PRACTICAL GUIDE 1 (2001); *see also* Endrud, *supra* note 2, at 261.

23. The term "alternative energy resource" was used in Ohio's original RPS and was defined to include "an advanced energy resource or renewable energy resource . . . that the mercantile customer commits for integration into the electric distribution utility's demand-response, energy efficiency, or peak demand reduction programs . . . ." S.B. 221 § 1, 127th Gen. Assemb., Reg. Sess. (Oh. 2008), 2008 Ohio Laws 833 (codified as amended at OHIO REV. CODE ANN. § 4928.64(A)(1)). Qualifying resources included, but were not limited to, resources that improved the relationship between real and reactive power, biomass technology, energy storage technology, and electric generation that uses a renewable energy resource. *Id.* The term "alternative energy resource" was replaced with "qualifying renewable energy resource" in 2014. *See* S.B. 310 § 1, 130th Gen. Assemb., Reg. Sess. (Oh. 2014), 2014 Ohio Laws *20 (codified at OHIO REV. CODE ANN. §§ 3706, 4928 (LexisNexis 2014)).

24. S.B. 221 § 1, 127th Gen. Assemb., Reg. Sess. (Oh. 2008), 2008 Ohio Laws 835 (codified as amended at OHIO REV. CODE ANN. § 4928.64).

25. *See* Joshua P. Fershee, *Renewable Mandates and Goals*, *in* THE LAW OF CLEAN ENERGY: EFFICIENCY AND RENEWABLES 85, 77 (Michael B. Gerrard ed., 2011).

26. S.B. 221 § 1, 127th Gen. Assemb., Reg. Sess. (Oh. 2008), 2008 Ohio Laws 835 (codified as amended at OHIO REV. CODE ANN. § 4928.64).

27. *Id.*

28. A Renewable Energy Certificate "represents the property rights to the environmental, social, and other nonpower qualities of renewable electricity generation." U.S. Envtl. Prot. Agency, *Renewable Energy Certificates (RECs)*, GREEN POWER PARTNERSHIP, http://www.epa.gov/greenpower/gpmarket/rec.htm (last visited Oct. 11, 2015). They allow renewable electricity providers the opportunity to sell these positive externalities to other under-compliant utilities. *Id.*

29. OHIO REV. CODE ANN. § 4928.64(B)(3), 4928.645 (LexisNexis 2014).

year, the Ohio Public Utilities Commission reviews the EDU's compliance with the most recent applicable benchmark and, if it determines an EDU is under-compliant or non-compliant, it imposes a fine that cannot be passed through to customers.[30] What qualifies as a "renewable energy resource" is outlined in Section 3706.25(E) of the Ohio Revised Code, defining "renewable energy resource" as "solar photovoltaic or solar thermal energy, wind energy, power produced by a hydroelectric facility[,] . . . geothermal energy, [and] . . . fuel derived from solid waste . . . ."[31] However, due to the unique geographical and meteorological features of Ohio, compliance relies largely on wind energy.[32]

B. *Ohio's Energy Efficiency Resource Standard*

S.B. 221 also established an Energy Efficiency Resource Standard (EERS). EERSs are benchmark requirements mandating electric utility companies to reduce their customer's demand by a specified amount of energy each year.[33] Energy reductions are "typically expressed as a percentage of annual retail energy sales or as specific energy savings amounts set over a long-term period."[34] These energy savings are usually specified by statute, mandating electrical utilities to help customers reduce their energy consumption.[35] While EERS requirements vary widely across states, the rationale for mandatory energy savings is typically the same: "Improving the environment, reducing the need for new generation and transmission, helping consumers realize the benefits of energy efficiency investments, encouraging economic development and green jobs, and promoting energy security."[36]

S.B. 221's EERS mandated a 22% reduction in the annual average energy consumption by 2025[37] and a 7.75% reduction in peak demand by

30. *Id.* § 4928.64(C)(2).

31. *Id.* § 3706.25(E).

32. *See Ohio Wind Energy*, AM. WIND ENERGY ASS'N, http://www.awea.org/Resources/state.aspx?ItemNumber=5395 (last visited Feb. 21, 2015) (reporting that, as of April 2014, Ohio had installed 246 wind turbines and ranked 25th among states for number of utility-scale wind turbines).

33. *See EERS*, *supra* note 21.

34. MICHAEL SCIORTINO ET AL., AM. COUNCIL FOR AN ENERGY-EFFICIENT ECON., REP. NO. U112, ENERGY EFFICIENCY RESOURCE STANDARDS: A PROGRESS REPORT ON STATE EXPERIENCE ii (2011).

35. John C. Dernbach & Marianne Tyrrell, *Federal Energy Efficiency and Conservation Laws*, *in* THE LAW OF CLEAN ENERGY, *supra* note 25, at 41.

36. Timothy J. Brennan & Karen L. Palmer, *Energy Efficiency Resource Standards: Economics and Policy*, 25 UTIL. POL'Y 58, 59 (2013).

37. Reductions are based on the "annual average, and normalized kilowatt-hour sales of the electric distribution utility during the preceding three calendar years to customers in

2018.[38] Upon implementation of S.B. 221 in 2009, the incremental demand reduction requirements began rather slowly, at three-tenths of one percent of the annual average energy demand. By 2014 however, the mandates increased precipitously, requiring a one percent decrease each year from 2014 through 2018 and a two percent decrease each year thereafter until 2025.[39]

II. S.B. 310: Reevaluating Ohio's Energy Policy

Only five years after implementation of its RPS, Ohio substantially revised its energy policy by passing S.B. 310. Among the most notable provisions of the bill, S.B. 310 froze the incremental RPS and EERS benchmarks at 2014 levels for two years,[40] allowed commercial and industrial customers to opt-out of the utility's energy efficiency plan,[41] eliminated the in-state mandate,[42] created an Energy Mandate Study Committee to make decisions regarding future changes to Ohio's RPS, and forced utilities to disclose on customer bills the individual customer's cost of the utility's compliance with the RPS.[43] Each of these contentious provisions is described in turn below.

A. *S.B. 310 Temporarily Froze the Renewable Portfolio Standard*

S.B. 310 placed a two-year moratorium on renewable energy mandates under the RPS. Similar to the energy efficiency mandates described *supra* in Section I.B, S.B. 310 froze the incremental renewable energy increases at 2014 levels for two years.[44] Thus, rather than allowing the 2015 and 2016 benchmarks to increase from 3.5% and 4.5% respectively, S.B. 310 allows mandates to remain at 2.5% until 2017, at which point the benchmarks will continue their incremental climb, ultimately reaching 12.5% by the end of

[Ohio]." S.B. 221 § 1, 127th Gen. Assemb., Reg. Sess. (Oh. 2008), 2008 Ohio Laws 839 (codified as amended at Ohio Rev. Code Ann. § 4928.66(A)(1)(a) (LexisNexis 2014)).

38. Peak demand reduction targets required a one percent decrease in "peak demand in 2009 and an additional seventy-five hundredths of one percent reduction each year through 2018." *Id.* In 2018, the "standing committees in the house of representatives and the senate primarily dealing with energy issues," were to make further recommendations regarding future peak demand reduction targets. *Id.*; *see also id.* at 840 (codified as amended at § 4928.66(B)).

39. S.B. 221 § 1, 127th Gen. Assemb., Reg. Sess. (Oh. 2008), 2008 Ohio Laws 839 (codified as amended at Ohio Rev. Code Ann. § 4928.66).

40. S.B. 310 § 1, 130th Gen. Assemb., Reg. Sess. (Oh. 2014), 2014 Ohio Laws *19 (codified at Ohio Rev. Code Ann. § 4928.64(B)(2) (LexisNexis 2014)).

41. *Id.* at *26–30 (codified at § 4928.66).

42. *Id.* at *20 (codified at § 4928.64).

43. *Id.* at *25 (codified at § 4928.65(A)(1)).

44. *Id.* at *35 (codified at § 4928.64(B)(2)).

2026.[45] The two year freeze is designed to allow the Energy Mandates Study Committee (EMSC), discussed at length below in Section II.D, time to evaluate the effectiveness of the renewable energy mandates.[46]

Like the RPS moratorium, S.B. 310 placed a two-year freeze on incremental increases to Ohio's EERS mandates. Rather than increasing energy savings requirements 1% annually from 2014 through 2018, S.B. 310 implements an equation for calculating EERS requirements in 2015 and 2016, if the results of this equation are zero, "the utility shall not be required to achieve additional energy savings for that year . . . ."[47] The two-year freeze on the EERS allows the EMSC and policymakers the opportunity to better understand the impact the EERS has had since its inception. As described *supra* in Part I, the EERS demand reductions began slowly and increased annually. Therefore, rather than continuing the perennial demand reduction mandates, S.B. 310 freezes demand reduction at 2014 levels.[48]

The requirements to decrease demand every year put a lot of pressure on EDUs. As a result, they had to implement increasing compliance measures, measures that, by statute, could be recovered by rate increases.[49] The recovery of costs incurred by implementing energy efficiency measures are typically passed on to customers through "tariff riders" which are "special rate schedules that create an additional rate charged to all customers used to fund demand-side energy conservation programs."[50] As the compliance requirements under S.B. 221 began to turn sharply upwards, compliance riders increased exponentially.[51] These rising utility costs caught the attention

45. *Id.*

46. *See* Senate Floor Debate, May 7, 2014, 130th Gen. Assemb., Reg. Sess. (Oh. 2014) (statement of Sen. Shannon Jones) (video recording), http://www.ohiochannel.org/MediaLibrary/MediaLibraryEmbed/OhioSenate/Media.aspx?fileId=143636 ("We're not eliminating these benchmarks, we are simply freezing them for a period of time, two years, to allow us the opportunity to settle in and understand the change in the marketplace, to understand the impact these mandates are having on businesses and ratepayers, and if the legislature doesn't act we revert to what is now current law.").

47. S.B. 310 § 1, 130th Gen. Assemb., Reg. Sess. (Oh. 2014), 2014 Ohio Laws *26 (codified at OHIO REV. CODE ANN. § 4928.66(A)(1)(a)).

48. *Id.* at *19 (codified at § 4928.64).

49. *See* OHIO ADMIN. CODE 4901:1-39-07(A) (2013). After filing a proposed energy efficiency plan, electric utilities "may submit a request for recovery of an approved rate adjustment mechanism, commencing after approval of the electric utility's program portfolio plan, of costs due to electric utility peak-demand reduction, demand response, energy efficiency program costs, appropriate lost distribution revenues, and shared savings." *Id.*

50. Alexandra B. Klass & John K. Harting, *State and Municipal Energy Efficiency Laws*, *in* THE LAW OF CLEAN ENERGY, *supra* note 25, at 62.

51. *See Hearing on S.B. 310 Before the S. Pub. Util. Comm.*, 130th Gen. Assemb., *18 (Oh. Apr. 9, 2014) (statement of Sam Randazzo, General Counsel, Industrial Energy Users-Ohio), http://www.ohiogreenstrategies.com/documents/randazzotestimony.pdf ("[T]he Alternative Energy Resource ('AER') Rider applicable to customers served by AEP-Ohio has

of large industrial ratepayers and, ultimately, members of the Ohio General Assembly, paving the way for S.B. 310.[52]

B. *S.B. 310 Authorized Energy-Intensive Industrial Customers to "Opt Out" of the EERS*

To help balance the desire for energy efficiency with the need for Ohio manufacturers to remain competitive, S.B. 310 contains an opt-out provision for energy-intensive industrial customers.[53] Under this provision, industrial customers, after providing written notice and a personalized reduction plan to the Public Utilities Commission of Ohio (PUCO) of their intent to opt-out of the utility's portfolio plan, will not be subject to any EERS cost recovery mechanisms.[54] Though critics claim the opt-out provision undermines the energy saving initiatives by granting immunity to the most energy-intensive customers,[55] the provision is not a windfall for industrial customers. In fact, customers electing to opt-out are required to submit an initial personalized reduction plan to PUCO "summariz[ing] the projects, actions, policies, or practices that the customer may consider implementing . . . for the purpose of reducing energy intensity," a process which must be repeated every two years thereafter.[56] Therefore, under S.B. 310, energy-intensive industrial customers will continue to implement cost-effective strategies to reduce energy usage, but without being subjected to reduction percentages arbitrarily imposed by the government.

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recently increased by 200% in the Columbus Southern zone and 400% in the Ohio Power zone. Large employers throughout Ohio are paying between $1 million and $2 million per year based on the current compliance requirements . . . .").

52. Telephone Interview with Sen. Troy Balderson, sponsor of Ohio S.B. 310 (Feb. 11, 2015) (stating that constituents grew concerned about higher electric bills); Memorandum from Keith Lake, Vice Pres. Gov't. Affairs, Oh. Chamber of Commerce to Sen. Bill Seitz, Chairman, S. Pub. Util. Comm. (Apr. 8, 2014) (on file with author) ("Ohioans have already paid nearly a billion dollars to comply with the costly law, and these mandates will continue to increase annually until 2025. Absent any action by the General Assembly, forecasts suggest the growing benchmarks mean Ohio ratepayers could be paying over $500 million per year by 2020.").

53. *See* S.B. 310, 130th Gen. Assemb., Reg. Sess. (Oh. 2014), 2014 Ohio Laws *31–32 (codified at OHIO REV. CODE ANN. § 4928.6611).

54. *Id.* at *32 (codified at § 4928.6613).

55. Martin Kushler, *Ohio SB 310 Post Mortem: It's Worse than You Thought*, AM. COUNCIL FOR AN ENERGY-EFFICIENT ECON. BLOG (June 23, 2014, 1:13 PM), http://aceee.org/blog/2014/06/ohio-sb-310-post-mortem-it-s-worse-yo.

56. S.B. 310 § 1, 130th Gen. Assemb., Reg. Sess. (Oh. 2014), 2014 Ohio Laws *33 (codified at OHIO REV. CODE ANN. § 4928.6616(A)–(B)).

C. *S.B. 310 Eliminated the Requirement that Fifty Percent of Renewable Energy Production Be Generated in State*

S.B. 310 eliminated the in-state mandate in the RPS, which required at least one half of the renewable energy mandate be met through facilities located within Ohio.[57] Opponents argue that removal of the in-state mandate will stymie Ohio's emerging renewable energy market and dissuade future investors.[58] However, like any protectionist measure, Ohio's in-state mandate was, by definition, also an out-of-state exclusion, triggering dormant commerce clause consideration. In fact, concern over dormant commerce clause implications of RPS in-state mandates is longstanding. In 2001, Rader and Scott noted that "[a]bsent a significant change in Supreme Court application of the Commerce Clause of the U.S. Constitution, the restriction to in-state generation will, if challenged, be found unconstitutional."[59] More recently, courts have reaffirmed the notion that a state cannot discriminate against out-of-state renewable energy without violating the Commerce Clause.[60] Therefore, despite the risk of sending renewable energy jobs across state lines, S.B. 310's removal of the in-state mandate was necessary to conform to the Court's current dormant Commerce Clause jurisprudence.

D. *S.B. 310 Created the Energy Mandate Study Committee to Assess the Future of Ohio's RPS*

S.B. 310 created the Energy Mandates Study Committee (EMSC) to analyze the effects of the mandates and make recommendations to the General Assembly.[61] The EMSC consists of twelve members of the Ohio General Assembly, six from the House and six from the Senate, tasked with evaluating the effects of the mandates and providing future recommendations to the General Assembly.[62] By statute, the EMSC is required to conduct a cost-benefit analysis and assess the environmental impact of the RPS

57. *See* S.B. 221, 127th Gen. Assemb., Reg. Sess. (Oh. 2008), 2008 Ohio Laws 792 (codified as amended at OHIO REV. CODE ANN. §§ 9, 4905, 4928, 4929 (LexisNexis 2014)).

58. Editorial, *Kasich Must Veto Unacceptable S.B. 310 when Revamped Energy Bill Reaches His Desk*, CLEV. PLAIN DEALER (May 8, 2014, 3:24 PM), http://www.cleveland.com/opinion/index.ssf/2014/05/kasich_must_veto_unacceptable.html.

59. RADER & HEMPLING, *supra* note 22, at A-1.

60. Ill. Commerce Comm'n v. FERC, 721 F.3d 764, 776 (7th Cir. 2013) (holding that a state "cannot, without violating the commerce clause of Article I of the Constitution, discriminate against out-of-state renewable energy").;

61. S.B. 310 § 4(A), 130th Gen. Assemb., Reg. Sess. (Oh. 2014), 2014 Ohio Laws *34.

62. *Id.* In addition to the twelve members of the General Assembly, the chairperson of the Ohio Public Utilities Commission acts as an ex officio, nonvoting member. *Id.*

and EERS mandates.[63] This evidence-based analysis is vitally important because states often set renewable targets "without knowing how much electricity can be generated from renewable resources . . . or . . . wors[e] completely arbitrar[ily]."[64] In fact, Ohio Senator Troy Balderson stated that this is exactly what happened in Ohio, noting that the "mandates were developed in 2008 void of any evidence-based scientific calculation, and the Ohio consumer has been paying for the costs and consequence of the arbitrarily developed plan."[65]

Critics of the two-year examination period claim it is simply a precursor to outright repeal.[66] In response, section 3 of S.B. 310 makes it clear the EMSC will gain "a better understanding of how energy mandates impact jobs and the economy in Ohio . . . [and] to review all energy resources as part of its efforts to address energy pricing issues."[67] The EMSC was tasked with assessing Ohio's EERS and RPS in light of changed circumstances and to use evidence-based methodologies to make recommendations on future mandate alterations, if any. In essence, S.B. 310 acts as somewhat of a "do over" since little evidence-based analysis was done at the time the mandates were adopter under S.B. 221.[68] In accordance with S.B. 310, on September 30, 2015, the EMSC submitted a report to the Ohio General Assembly including, *inter alia*, a cost-benefit analysis of the renewable energy and energy efficiency mandates, a recommendation of the best evidence-based standard for reviewing the mandates in the future, and an assessment of the environmental impact of the renewable energy, energy efficiency, and peak demand reduction mandates on reductions of greenhouse gas and fossil fuel emissions.[69]

After eight public hearings, which included testimony from a variety of experts and stakeholders, the EMSC issued its final report, which included

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63. *Id.* at § 4(C)(1)–(8).

64. BOSSELMAN ET AL., *supra* note 1, at 894.

65. Memorandum from Sen. Troy Balderson to Ohio S. Pub. Util. Comm. (June 2014) (on file with author).

66. *See* Dan Gearino, *Kasich Signs Bill Freezing 'Green' Energy Requirements*, COLUMBUS DISPATCH (June 14, 2014, 5:41 AM), http://www.dispatch.com/content/stories/business/2014/06/13/kasich-signs-bill-freezing-green-energy-rules.html.

67. S.B. 310 § 3, 130th Gen. Assemb., Reg. Sess. (Oh. 2014), 2014 Ohio Laws *34 (codified at OHIO REV. CODE ANN. §§ 3706, 4928 (LexisNexis 2014)).

68. Telephone Interview with Troy Balderson, Sen, State of Ohio (Feb. 11, 2015). Senator Balderson, sponsor of Ohio S.B. 310, noted that the intention of the study committee was not to eliminate the mandates. Instead, he wants to use science-based energy efficiency because under Senate Bill 221 "it seemed like we were just picking numbers out." *Id.*

69. S.B. 310 § 4(C)(1)–(8), 130th Gen. Assemb., Reg. Sess. (Oh. 2014), 2014 Ohio Laws *35–36 (codified at OHIO REV. CODE ANN. §§ 3706, 4928).

five recommendations to the Ohio General Assembly.[70] Among them, the EMSC recommended to switch from energy mandates to energy incentives and to extend the S.B. 310 moratorium indefinitely.[71] Despite finding that residential electricity prices increased in 2014 due to the RPS and EERS mandates,[72] the EMSC noted that "energy efficiency can provide great value if it is structured properly."[73] Therefore, the EMSC determined that an indefinite freeze at current levels, along with allowing EDUs to offer *voluntary* energy efficiency programs, provides maximum flexibility for compliance with pending federal environmental legislation.[74] Thus, as intended, S.B. 310 allows Ohio legislators the opportunity to address the environmental and economic impact the RPS mandates have had in the five years since their implementation, without outright repeal.

In addition, during the two-year freeze, Ohio lawmakers have the opportunity to determine how the EERS will impact economic competition between states. Currently, about half of the states have no energy efficiency requirements at all and, of those that do, many have mandates that are far less restrictive than Ohio.[75] Energy-intensive industrial customers are particularly sensitive to rising electricity rates and Ohio, as well as many other Midwestern states, relies heavily on the industrial manufacturing sector for jobs and economic sustainability.[76] Therefore, the EMSC is vital in assessing what effects the RPS and EERS have had thus far, and how Ohio's energy policy can help promote economic development within the state.

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70. ENERGY MANDATE STUDY COMM., CO-CHAIRS' REPORT 2, 11–16, 131st Gen. Assemb. (Ohio 2015).

71. *Id.* at 11–16.

72. *Id.* at 3–6.

73. *Id.* at 15.

74. *Id.* at 11. In reference to the EPA Clean Power Plan, the EMSC determined that "as long as legal questions remain pending, the General Assembly should refrain from allowing escalating costs to be paid by Ohio ratepayers in the form of increased Mandates or making any significant changes to the State of Ohio's energy policies without knowing whether the CPP will ever apply." *Id.*

75. *Renewable Portfolio Standard Policies,* DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (June 2015), http://ncsolarcen-prod.s3.amazonaws.com/wp-content/uploads/2014/11/Renewable-Portfolio-Standards.pdf; Senate Floor Debate, May 7, 2014, 130th Gen. Assemb., Reg. Sess. (Oh. 2014) (statement of Sen. Bill Seitz) (video recording), http://www.ohiochannel.org/MediaLibrary/MediaLibraryEmbed/OhioSenate/Media.aspx?fileId=143636 (listing several states with less ambitious efficiency mandates than Ohio and raising concern that Ohio manufacturers are facing global competition from companies that are not subjected to increased electric rates caused by efficiency mandates).

76. According to the U.S. Bureau of Labor Statistics, in July 2015, approximately 12.7% of the jobs in Ohio were from manufacturing. U.S. Bureau of Labor Statistics, *Ohio*, ECONOMY AT A GLANCE, http://www.bls.gov/eag/eag.oh.htm#eag_oh.f.P (last visited Aug. 21, 2015).

E. *S.B. 310 Increased Utility Bill Transparency*

The final major provision of S.B. 310 requires utility companies to disclose, on every customer's bill, the cost of their participation in the energy efficiency and renewable energy mandates.[77] Studies show that, all things being equal, ratepayers would prefer to receive their energy from renewable sources.[78] However, as discussed below in Section III.C, many consumers lack information about the true cost of renewable energy. S.B. 310 requires EDUs to disclose on customer utility bills the individual cost of compliance with RPS and EE mandates. The cost disclosures must be listed as distinct line items, one for costs related to the RPS and one for EERS.[79] The disclosure requirement will allow customers to make an informed decision about the tradeoffs between energy mandates and cost.[80]

III. Dispelling Myths: The Reasoning Behind the Change

To understand why Ohio lawmakers decided to reform an energy policy that was only five years old, it is important to have some insight into the political, economic, and other factors at play in the state. First, two theories of the legislative process offer some insight: (1) interest group theory (and its subset, public choice theory) and (2) positive political theory. Second, a lack of transparency regarding the costs of wind energy to the consumer provides a potential explanation for S.B. 310's passage. Lastly, Ohio lawmakers passed S.B. 310, in part, in response to changed economic conditions and new energy sources in Ohio.

A. *Interest Group Theory Does Not Fully Explain the Passage of S.B. 310*

Perhaps the most widespread criticism of S.B. 310 is that it represents interest group politics designed to "boost the coffers" of electrical utility

77. *See* S.B. 310 § 1, 130th Gen. Assemb., Reg. Sess. (Oh. 2014), 2014 Ohio Laws *25 (codified at Ohio Rev. Code Ann. § 4928.65(A)(1)(a)–(c) (LexisNexis 2014)).

78. Meg Handley, *Poll: Americans Overwhelmingly Support Alternative Energy*, U.S. News & World Rep. (Apr. 1, 2013, 12:01 PM), http://www.usnews.com/news/articles/2013/04/01/poll-americans-overwhelmingly-support-alternative-energy.

79. S.B. 310 § 1, 130th Gen. Assemb., Reg. Sess. (Oh. 2014), 2014 Ohio Laws *26 (codified at Ohio Rev. Code Ann. § 4928.65(C)).

80. Notably, however, Ohio's disclosure statements will not include the costs of the health and environmental externalities associated with fossil fuel generation. *See* S.B. 310 § 1, 2014 Ohio Laws *26 (codified at § 4928.65(A)). Nonetheless, Ohio will be one of the first states to attempt to provide greater transparency in the comparative costs of energy sources on customer utility bills.

companies.[81] Interest group theory suggests that groups exert a disproportionate influence on governments and politicians, often at the expense of the broader public interest and the less advantaged.[82] Interest groups can be defined as "any group that pursues contested political or policy goals, and that is widely regarded by the public as being one contending interest among others."[83] There are several variations on the theory. One variation, known as public choice theory, applies economic principles to political decision making as a way of explaining how politically-motivated interest groups are formed.[84] Under public choice theory, all political actors—lawmakers, candidates, and voters—are seen as rational actors who make political decisions with the intention of maximizing utility, similar to how consumers make decisions in the economic marketplace.[85] Therefore, rational actors will participate in the political system when the perceived benefit they expect to receive outweighs the cost of becoming involved.

Under public choice theory, clean energy legislation is a public good that applies to society generally by providing cleaner air for all citizens. Few individuals will get personally involved in the political process because the probability that they will affect the outcome is outweighed by the burden of becoming involved. Thus, more influential stakeholders, such as industry

81. *See* Rep. Mike Foley, *Senate Bill 310 Is Step Backwards for Clean Energy in Ohio*, CLEV. PLAIN DEALER (June 15, 2014, 12:00 PM), http://www.cleveland.com/metro/index.ssf/2014/06/senate_bill_310_is_step_backwa.html (stating there are "no benefits to Senate Bill 310" and that S.B. 221 "crumbled under the weight of special interests and big utility companies"); *see also* Lindsay Abram, *How the Koch Brothers Stole Ohio*, SALON (June 18, 2014), http://www.salon.com/2014/06/18/how_the_koch_brothers_stole_ohio/ (interviewing former Ohio gubernatorial candidate Ed Fitzgerald, who argues that S.B. 310 passed due to political influence exerted by special interest and lobbyist groups); John Funk, *Ohio Renewable Energy and Efficiency Rules Frozen for Two Years as Gov. John Kasich Signs Legislation*, CLEV. PLAIN DEALER (June 13, 2014), http://www.cleveland.com/business/index.ssf/2014/06/ohio_renewable_energy_and_effi.html ("Senate Bill 310, created by the Republican legislative majorities at the behest of the utilities and some of the state's largest industries, keeps the annually increasing mandates at this year's levels until 2017 . . . ."); Tom Knox, *Renewables Freeze Baffles Opponents but Backers Say 'Hysteria' Unwarranted*, COLUMBUS BUS. FIRST (May 29, 2014, 11:03 AM), http://www.bizjournals.com/columbus/blog/2014/05/renewables-freeze-baffles-opponents-but-backers.html?page=2 (arguing that utilities and business groups, threatening high prices on ratepayers, have "chip[ped] away at the standards").

82. KAY LEHMAN SCHLOZMAN & JOHN TIERNEY, ORGANIZED INTERESTS AND AMERICAN DEMOCRACY 68 (1986).

83. Peter Schunk, *Against (and For) Madison: An Essay in Praise of Factions*, 15 YALE L. & POL'Y REV. 553, 558 (1997).

84. WILLIAM N. ESKRIDGE, JR. ET AL., LEGISLATION AND STATUTORY INTERPRETATION 88 (2nd ed. 2006).

85. *Id.*; *see also* Gary Becker, *A Theory of Competition Among Pressure Groups for Political Influence*, 98 Q.J. ECON. 371 (1983).

and business interest groups, will exert disproportionate influence on the legislature than the diffuse public, or so the argument goes.

While critics of S.B. 310 focus on *whether* lobby groups influenced its passage of S.B. 310, they fail to address the key concern of public choice theory: whether the legislature's passage of S.B. 310 was in accordance with societal desires. If the majority of citizens desired social change—in this case change to Ohio's electricity policy—and this change was brought to the attention of lawmakers via interest groups, the lobby provided a social good. According to an April 2014 poll, a majority of Ohio voters said that the government should not mandate reductions in electricity use.[86] The same poll showed that 71% of customers would favor allowing ratepayers to decide whether to pay for the costs of mandates and roughly the same percentage said they would support repealing energy efficiency mandates in light of emerging low-cost energy options.[87] Interestingly, public opinion on renewable energy and energy efficiency seems to be significantly negatively correlated with cost.[88] When polling was conducted without taking costs into account, Ohioans seemed to overwhelming support renewable energy.[89] Therefore, whether or not S.B. 310 reflects public opinion likely depends less on *who* brings the issue to the attention of lawmakers and more on *how* individual voters value the competing interests of economy and environment.

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86. Tarrance Group, Presentation to Ohioans for Sustainable Jobs: A Survey of Voter Attitudes in Ohio (Jan. 2014).

87. *Id.* at 6.

88. *Compare id.* at 3 (reporting that, when told that energy efficiency mandates could cost ratepayers two hundred and twenty-seven dollars per year by 2025, sixty-eight percent of respondents disagree that the government should mandate electricity reductions), *with* Memorandum from Fairbank, Maslin, Maullin, Metz, & Assocs. to Ohio Advanced Energy Econ., Ohio Voters Register Strong Support for Current Standards for Energy Efficiency and Clean Energy; More Oppose a Freeze (Apr. 15, 2014), http://ohioadvancedenergy.org/wp-content/uploads/2014/04/Ohio-Energy-Summary-Memo-4-15-14-FINAL.pdf (reporting that when asked about energy efficiency mandates that "require[] major electric utilities to provide programs through which customers can more affordably make energy efficiency upgrades to their homes," eighty-six percent of respondents supported the mandates).

89. *See* Memorandum from Fairbank, Maslin, Maullin, Metz, & Assocs., *supra* note 88. The poll results tend to differ based on the manner in which questions were presented. For example, when questions were posed as "mandates" rather than "standards" they received less support. *Id.* Further, when questions mentioned the cost of mandates, such as "[e]stimates say that the programs may cost customers as much as two hundred and twenty-seven dollars per year by 2025. Knowing this . . . [d]o you agree or disagree that the government should mandate reductions in electricity use by Ohio's residential and business users," citizens were opposed to the mandates; whereas cost-neutral questions such as whether customers support a "law in Ohio that requires major electric utilities to gradually increase their use of renewable energy like wind and solar," showed significant support. *Id.* at 2.

Nonetheless, the legislative history of S.B. 310 does, in fact, lend some credence to the interest group theory. The Ohio Senate Public Utilities Committee heard over fifty-one hours of testimony on S.B. 310, a sizeable portion of which was provided by various business coalitions, industry groups, and environmental groups.[90] One of the prevalent criticisms of S.B. 310 is that it is simply a manifestation of big utility company[91] influence; however such an argument is largely fallacious and overly simplistic. While there is no question that EDUs such as FirstEnergy supported the passage of S.B. 310,[92] in the fifty-one hours of testimony before the Senate Public Utilities Committee, interest groups on both sides of the issue presented evidence about the effects of Ohio's RPS.[93] In fact, contrary to the popular opposition talking point, Senator Michael Skindell, in his floor testimony in opposition to S.B. 310, stated that representatives from the investor owned utilities did not speak during committee meetings.[94] In explaining this distinct lack of EDU testimony, Senator Bill Seitz noted that electrical utilities are, to some degree, indifferent about environmental mandates, stating that "they'll do anything we tell them to do as long as they get to pass the costs along to the rate payers."[95] In fact, Ohio's RPS, codified in Ohio Revised Code 4928, specifically allows EDU's to recover, from consumers, ongoing costs from renewable energy procurement contracts entered into prior to passage of S.B. 310.[96] Therefore, interest group theory, particularly as it

90. *See* Senate Floor Debate, May 7, 2014, 130th Gen. Assemb., Reg. Sess. (Oh. 2014) (statement of Sen. Shannon Jones) (video recording), http://www.ohiochannel.org/MediaLibrary/MediaLibraryEmbed/OhioSenate/Media.aspx?fileId=143636.

91. *See* Foley, *supra* note 81.

92. After the passage of S.B. 310, FirstEnergy released a statement noting: "FirstEnergy is pleased that Ohio took a positive step toward reforming the state's costly energy efficiency and renewable energy mandates. . . . Senate Bill 310 will benefit consumers and support job growth in Ohio by holding the line on further bill increases to pay for energy efficiency programs." John Funk, *Ohio Renewable Energy and Efficiency Rules Frozen for Two Years as Gov. John Kasich Signs Legislation*, CLEV. PLAIN DEALER (June, 13, 2014, 2:21 PM), http://www.cleveland.com/business/index.ssf/2014/06/ohio_renewable_energy_and_effi.html.

93. Telephone Interview with Sen. Troy Balderson, sponsor of Ohio S.B. 310 (Feb. 11, 2015).

94. *See* Senate Floor Debate, May 7, 2014, 130th Gen. Assemb., Reg. Sess. (Oh. 2014) (statement of Sen. Skindell) (video recording), http://www.ohiochannel.org/MediaLibrary/MediaLibraryEmbed/OhioSenate/Media.aspx?fileId=143636 (noting that rather than testifying in committee meetings, the representatives from the Ohio investor-owned utilities just "sit back and gloat").

95. *See* Senate Floor Debate, May 7, 2014, 130th Gen. Assemb., Reg. Sess. (Oh. 2014) (statement of Sen. Bill Seitz) (video recording), http://www.ohiochannel.org/MediaLibrary/MediaLibraryEmbed/OhioSenate/Media.aspx?fileId=143636. Senator Seitz is the Chairman of the Ohio Senate Public Utilities Commission and introduced his own bill to amend the Ohio RPS, which later gave way to S.B. 310.

96. OHIO REV. CODE ANN. § 4928.641(A) (LexisNexis 2014).

pertains to EDUs, provides an incomplete description of the political process behind the reexamination of Ohio's RPS.

B. *Positive Political Theory Serves as a Stronger Model for the Forces Behind the Passage of S.B. 310*

A sub-category of institutional theory, positive political theory (PPT) applies game theory principles to the political process.[97] PPT recognizes that political players, such as legislators, understand the political process and anticipate the response of other political actors who will influence the policy outcome.[98] Since a legislator understands that any outcome will be dependent on the preferences of other decisionmakers, she will anticipate the other party's reaction and act strategically to ensure that the ultimate outcome is as close to her preference as possible.[99] In game theory this anticipated response describes a sequential game in which each player's choice is "determined not only by her preference on a topic, but also by her place in the institutional structure and her understanding of the preferences of other players who follow her."[100]

As applied, S.B. 310 was not the first bill to propose a reevaluation of Ohio's RPS. In 2013, Ohio Senator Kris Jordan introduced Senate Bill 34 (S.B. 34) which would have repealed the RPS altogether.[101] Despite early support, S.B. 34 began to wane once Senator Bill Seitz introduced Senate Bill 58 (S.B. 58), which called for amending, rather than outright repeal of, S.B. 221 and the RPS.[102] In discussing the competing bill introduced by fellow Republican Senator Seitz, Senator Jordan noted "I know he supports in concept mine, my ideas, but he's trying to bring everyone to the table. He's throwing out a lot more compromises right now than I am."[103] While S.B. 58 ultimately gave way to S.B. 310, at the time Senator Jordan said he would support a compromise bill because "it takes us in the right direction."[104] S.B. 310 sponsor Troy Balderson echoed the concept of compromise. When describing what initially brought the issues of Ohio's energy

97. ESKRIDGE, *supra* note 84, at 104.
98. *Id.*
99. *Id.*
100. *Id.* at 105.
101. S.B. 34, 130th Gen. Assemb., Reg. Sess. (Oh. 2014), http://archives.legislature.state.oh.us/bills.cfm?ID=130_SB_34.
102. *See* S.B. 58, 130th Gen. Assemb., Reg. Sess. (Oh. 2014), http://archives.legislature.state.oh.us/bills.cfm?ID=130_SB_58; *see also*, Tom Knox, *Let Market Drive Technologies*, COLUMBUS BUS. FIRST (Mar. 14, 2014, 6:00 AM), http://www.bizjournals.com/columbus/print-edition/2014/03/14/let-market-drive-technologies.html?page=.
103. Knox, *supra* note 102.
104. *Id.*

policy to his attention, Senator Balderson stated that "it was a compromise," noting that he originally supported S.B. 58 but realized it was not feasible and, thus, devised S.B. 310.[105]

S.B. 310 clearly exemplifies a strategic compromise between repeal and the status quo. Though not ultimately adopted, S.B. 34 offered an opportunity for deliberation and paved the way for alternatives, such as S.B. 310, that were more amenable to a broader base. Outright repeal likely would not have passed the Ohio legislature. Therefore, drafters had to anticipate the response of their opponents and draft a bill that would allow for reexamination without outright rejection. There is little doubt that both interest group theory and positive political theory played a role in the passage of S.B. 310. However, the complexities of S.B. 310 are ill-explained by theory alone and must be examined in light of the environmental and economic impact that the RPS had in the five years since their implementation.

C. *Ohio Needed to Re-Evaluate the Costs and Tradeoffs of Wind Energy*

Having thus determined that, contrary to claims otherwise, the passage of S.B. 310 cannot be explained entirely based on interest group politics, it is important to understand what real-world implications prompted Ohio to become the first state to freeze its RPS. The following section explores the hidden costs of renewable power and how the desire to evaluate cost tradeoffs may have encouraged Ohio lawmakers to pass S.B. 310.

For a variety of reasons, it is difficult to determine what the net impact of the RPS has been on Ohio ratepayers since its inception. Renewable energy advocates argue that RPSs have a positive economic impact by creating new jobs, spurring investment in renewable energy, and increasing the tax base.[106] However, some studies outright contradict these claims, finding that RPSs lead to job loss, decreased property values, and overall negative economic impacts.[107] In Ohio, there has similarly been little consensus on the true economic impact of the state's RPS. But, there is some indication that electricity prices have increased since the RPS was implemented.

While electricity price changes in Ohio could be attributed to factors other than the RPS including Ohio's change from regulated to deregulated

105. Telephone Interview with Sen. Troy Balderson, sponsor of Ohio S.B. 310 (Feb. 11, 2015).

106. *See Renewable Electricity Standards*, AM. WIND ENERGY ASS'N, http://awea.org/advocacy/content.aspx?itemnumber=5217 (last visited Oct. 29, 2015).

107. RANDY T. SIMMONS ET AL., UTAH STATE UNIV., RENEWABLE PORTFOLIO STANDARDS: NORTH CAROLINA (2015), http://www.usu.edu/ipe/index.php/renewable-portfolio-standards-north-carolina/.

electricity markets, a controversial study from Utah State University indicates that, if left unchanged, Ohio's RPS will cost ratepayers $1.92 billion in increased electricity costs.[108] In year 2026 alone, electricity prices are estimated to increase 0.20 cents per kilowatt-hour.[109] According to PUCO's Ohio Utility Rate Survey, standard service offer electricity rates have increased every year since the passage of S.B. 221.[110] While advances in renewable energy technology may decrease costs over time,[111] S.B. 310 allows Ohio policymakers the opportunity to reassess the economic impact the RPS is having on electricity rates.

For customers, S.B. 310 creates more transparency, allowing ratepayers to see, on their bills, exactly how the RPS affects them.[112] Often, customers are left uninformed about the actual cost of renewable energy. Since most renewable energy sources rely on intermittent fuel sources, they require backup from fossil fuel facilities, typically natural gas plants.[113] In fact, due to current inefficiencies in energy storage, "[a] rise in wind power [would] most likely just cause a thermal plant to switch from generation to standby, in which mode it continues to burn fuel."[114] And while recent estimates indicate decreasing capital costs and increased capacity factor for wind projects,[115] studies indicate that the all-in cost for wind energy continues to

108. RANDY T. SIMMONS ET AL., UTAH STATE UNIV., RENEWABLE PORTFOLIO STANDARDS: OHIO 6, tbl. 1 (2015), http://www.usu.edu/ipe/index.php/renewable-portfolio-standards-ohio/. Simmons' study has drawn criticism due to methodological concerns as well his affiliation with pro-fossil fuel interests. *See* Erik Wemple, *Newsweek Adds Disclosure About Koch Ties of Professor Who Wrote Anti-Wind Power Piece*, WASH. TIMES (Apr. 21, 2015), https://www.washingtonpost.com/blogs/erik-wemple/wp/2015/04/21/newsweek-adds-disclosure-about-koch-ties-of-professor-who-wrote-anti-wind-power-piece/.

109. *Id.*

110. See *Ohio Utility Rate Survey*, PUB. UTIL. COMM'N OF OHIO, http://www.puco.ohio.gov/puco/index.cfm/industry-information/statistical-reports/ohio-utility-rate-survey/#sthash.T2WPVzCs.dpbs (last visited Oct. 29, 2015) for monthly electricity price data. Compare, for example, the July-December 2014 time period with February-June 2015.

111. *See* Tom Randall, *While You Were Getting Worked Up over Oil Prices, This Just Happened to Solar*, BLOOMBERG BUS. (Oct. 29, 2014, 4:53 PM), http://www.bloomberg.com/news/articles/2014-10-29/while-you-were-getting-worked-up-over-oil-prices-this-just-happened-to-solar.

112. *See supra* Part II.E., Utility Bill Transparency.

113. *See* ARJUN MAKHIJANI, INST. FOR ENERGY & ENVTL. RESEARCH, CARBON-FREE AND NUCLEAR-FREE: A ROADMAP FOR U.S. ENERGY POLICY 32–33, 43, 106 (2007).

114. Eric Rosenbloom, *The Drawbacks of Wind Power Far Outweigh the Benefits, in* ENERGY ALTERNATIVES 140, 141 (Barbara Passero ed., 2006).

115. *See* ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, DOE/EIA-0383(2015), ANNUAL ENERGY OUTLOOK 2015 at A-32 to A-33, E-12 (2015), http://www.eia.gov/forecasts/aeo/pdf/0383(2015).pdf.

be quite high.[116] The all-in cost of wind power "is what consumers and society as a whole pay both to purchase wind-generated electricity and also to subsidize the wind energy industry through taxes and government debt."[117] When other costs, such as capital costs, operating costs, capacity factors, and costs of government subsidies, are considered, the true cost of wind power could be 48% higher than previous estimates.[118] Therefore, S.B. 310 allows customers to make an informed decision about the tradeoffs between energy mandates and cost. If, after seeing how energy mandates directly affect them, ratepayers determine the benefits of renewable energy outweigh the cost, then they can be said to have approved the increased costs through acquiescence. After S.B. 310, ratepayers will at least have the information necessary to determine if their support for renewable energy outweighs the cost.

However, even the cost on the bill may not accurately reflect the long-term costs and externalities associated with dramatic increases in reliance on renewable energy, particularly wind generation.[119] The purpose of this Note is not to give an in-depth analysis on the functionality of wind generation, nor is it to provide a complicated economic analysis on the feasibility of

116. RANDY T. SIMMONS, ET AL., UTAH STATE UNIV., THE TRUE COST OF ENERGY: WIND 36 (2015), http://www.strata.org/wp-content/uploads/2015/07/Full-Report-True-Cost-of-Wind1.pdf.

117. *Id.* at 3.

118. *Id.* at 36. It should be noted that the study does not account for the value placed on reduced carbon emissions caused by utilizing wind power instead of fossil fuel generation plants. *Id.* at 32–33.

119. President Obama has cited several European nations as models for renewable energy and "green" technology. *See Spain's Solar Deals on Edge of Bankruptcy as Subsidies Founder*, BLOOMBERG BUS. (Oct. 18, 2010, 6:00 PM), http://www.bloomberg.com/news/articles/2010-10-18/spanish-solar-projects-on-brink-of-bankruptcy-as-subsidy-policies-founder ("Obama praised Spain as a model of green-energy-driven economic transformation."). However, some recent studies indicate such models have not been as successful as previously anticipated. In Spain, one study found that "each green job created . . . cost Spanish taxpayers $770,000 [and] [e]ach Wind Industry job cost $1.3 million to create." Dale Hurd, *Spain's Green Disaster a Lesson for America*, CBN NEWS (Dec. 26, 2011), http://www.cbn.com/cbnnews/finance/2011/november/spains-green-disaster-a-lesson-for-america/. Further, "Spain's green technology dream was costing the nation more than $15 billion a year before the government had to slash it because it failed and Spain was going broke." *Id.* Similarly, in Germany the government has launched a trillion-euro initiative to reduce the country's reliance on nuclear and fossil fuels. Matthew Karnitschnig, *Germany's Expensive Gamble on Renewable Energy: Companies Worry Cost of Plan to Trim Nuclear, Fossil Fuels Will Undermine Competitiveness*, WALL ST. J. (Aug. 26, 2014, 10:30 PM), http://www.wsj.com/articles/germanys-expensive-gamble-on-renewable-energy-1409106602. However, in the past five years the average electricity bill has increased 60% "because of costs passed along as part of government subsidies of renewable energy producers. *Id.* Prices are now more than double those in the U.S." *Id.* Since the German government passes subsidy costs along to consumers in the form of a surcharge, the market price for electricity has gone down while the consumer prices have increased.

wind turbines. However, a brief analysis of both is necessary to understand why Ohio lawmakers felt the need to reexamine the RPS mandates.

The value of industrial wind generation is often assessed in terms of "direct savings that . . . result due to the use of the wind rather than the most likely alternative [fuel source]."[120] In other words, wind generation results in avoided costs by reducing fuel-use that would otherwise be consumed by traditional generation plants.[121] Furthermore, since an industrial wind turbine's fuel source, wind, is free, they are often associated with low cost energy production. However, evaluating wind generation exclusively based on relative fuel costs or the avoided cost of alternative generation is overly simplistic.[122] In fact, opponents of wind generation argue that it is often more expensive and less efficient than traditional electricity generation methods.[123]

One of the biggest shortcomings of wind-generated electricity is intermittency.[124] Since wind is intermittent, it is not possible to increase output to coincide with demand.[125] Therefore, "the variability of wind energy necessitates the addition of reserve capacity other than wind that can be tapped when the wind falls below the forecasted level over a period of hours or days."[126] In other words, wind energy requires redundant generation capacity from a source that is able to match fuel supply with load increase or decrease.[127] Redundancy is both expensive and inefficient.

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120. J.F. Manwell et al., Wind Energy Explained: Theory, Design and Application 521 (2d ed. 2009).

121. *Id.*

122. *Id.*

123. *See* Ross R. McKitrick, Fraser Inst., Environmental and Economic Consequences of Ontario's Green Energy Act 15 (2013), http://www.fraserinstitute.org/sites/default/files/environmental-and-economic-consequences-ontarios-green-energy-act.pdf. Doctor Ross McKitrick is a Professor of Economics and CBE Chair in Sustainable Commerce at the University of Guelph in Ontario Canada and has written extensively on environmental economics and policy analysis. Ross R. McKitrick, *CV, talks, bio, etc.*, http://www.rossmckitrick.com/cv-talks-bio-etc.html (last visited Aug. 24, 2015).

124. Makhijani, *supra* note 113, at 31–32.

125. In his testimony before the Ohio Energy Mandates Study Committee on March 18, 2015, Andrew Ott, Executive Vice President of Markets for PJM, testified that

> [b]ecause wind and solar are intermittent renewable resources, PJM values their capacity contribution at 13 percent and 38 percent respectively of their nameplate capacity. This means for example that of the 8,800 MW of wind resources that are expected to be in operation by 2017, these resources contribute only about 1,150 MW of capacity or reliability value.

Hearing Before the Ohio Energy Mandates Study Comm., 131st Gen. Assemb. (Oh. 2015) (statement of Andrew Ott, Executive Vice President, Markets for PJM Interconnection) [hereinafter *Ott Testimony*], http://emsc.legislature.ohio.gov/Assets/Testimony/31815-andrew-ott.pdf.

126. Makhijani, *supra* note 113, at 32.

127. *Id.* at 33.

Another inefficiency associated with wind-generation electricity is the temporal disconnect between available wind energy and demand.[128] In other words, wind power is often at low levels in the morning, a time when demand is traditionally increasing, and often increases in the evening as demand tends to decrease.[129] In fact, data indicates that, in some areas, wind output and demand are anti-correlated such that "[w]ind power . . .is heavily concentrated at times of the year when demand is at a minimum, and declines during times when demand is rising."[130] This disconnect of generation from demand is problematic because excess surplus can create strain on the electric grid and, in some cases, must be exported at a loss.[131]

This problem is often exacerbated by government intervention aimed at incentivizing wind energy generation. For example, some states and countries provide a guaranteed, above-market rate for wind generation, a policy known as a feed-in tariff.[132] Such intervention schemes may lead to the perverse incentive of generating unneeded electricity at higher-than-market rates. Though it should be noted that Ohio does not have a feed-in tariff system, wind generation units are federally subsidized through a variety of tax and grant incentives.[133] Governmental incentives for renewable energy projects can be particularly problematic in deregulated electricity markets.[134] Since renewables such as wind and solar have zero fuel costs, renewable energy providers selling electricity into electricity auctions are

128. *See* McKitrick, *supra* note 123, at 12.

129. Auditor Gen. of Ontario, Annual Report of the Office of the Auditor-General of Ontario 111 (2011), http://www.auditor.on.ca/en/reports_en/en11/2011ar_en.pdf [hereinafter Ontario Annual Report].

130. McKitrick, *supra* note 123, at 16.

131. *See* Ontario Annual Report, *supra* note 129, at 112. For example, Germany has over 21,000 wind turbines and "[i]n extreme cases, wind turbines and conventional power plants in eastern Germany produce three to four times the total amount of electricity actually being used. This surplus places a great strain on the eastern German 'supergrid'." Richard Fuchs, *Wind Energy Surplus Threatens Eastern Germany Power Grid*, European Dialogue (Jan. 4, 2011), http://www.eurodialogue.eu/Wind-energy-surplus-threatens-eastern-German-power-grid.

132. Manwell et al., *supra* note 120, at 529.

133. *See generally* North Carolina Clean Energy Technology Center, Database of State Incentives for Renewables & Efficiency (DSIRE), http://programs.dsireusa.org/system/program?state=OH&technology=8& (last visited Oct. 15, 2015).

134. In regulated electricity markets, a single, vertically-integrated, utility company provides electric services and state public utility commissions set rates. In deregulated electricity markets, utility companies still provide distribution and transmission functions, but the generation function is decoupled, allowing for competition in retail electricity sales. *See* David B. Spence, *Can Law Manage Competitive Energy Markets?*, 93 Cornell L. Rev. 765, 774 (1998).

incentivized to take any market price they receive above zero.[135] Therefore, renewable electricity providers, which have virtually no variable costs, are able to sell electricity into the market at prices below those profitable for coal and gas providers. While this situation may lead to lower electricity costs in the short-run, market prices for renewables do not accurately reflect their "all-in" costs. Due to their intermittency, renewables alone cannot provide a reliable base load[136] and require back-up capacity from fossil fuel facilities to ensure capacity will be able to meet demand.[137] Since electricity markets do not price reliability into clearing prices, price signals are too low to spur investment in new generation facilities, a situation known as the "missing money problem."[138] In fact, this flawed market structure, which does not account for necessary backup generation capacity, has caused the Ohio's four largest EDUs to ask PUCO for price relief in an effort to save certain generation facilities from being shut down.[139]

Finally, wind turbines are often strategically placed in high-wind areas to maximize their generation capacity. Wind studies and various algorithms are used to determine, to the extent possible, the optimal placement of wind farms.[140] Unfortunately, these ideal high-wind areas are often located in rural areas, far away from where the electricity will ultimately be consumed.[141] Therefore, wind generated electricity must be transmitted over long distances to reach end-users.[142] Not only does this lead to inefficiencies due to line loss[143] but also requires immense and costly upgrades to the

135. LAWRENCE J. MAKOVICH ET AL., IHS CAMBRIDGE ENERGY RES. ASSOC., POWER SUPPLY COST RECOVERY: BRIDGING THE MISSING MONEY GAP 9–10 (2013).

136. Energy Info. Admin, U.S. Dep't of Energy, *B*, GLOSSARY, http://www.eia.gov/tools/glossary/index.cfm?id=B (last visited Aug. 7, 2015) (defining base load electricity as "[t]he minimum amount of electric power delivered or required over a given period of time at a steady rate.").

137. *See supra* note 125.

138. See MAKOVICH ET AL., *supra* note 135, at 5.

139. Dan Gearino, *Electricity Companies Seek Some Regulation*, COLUMBUS DISPATCH (Aug. 10, 2014, 8:11 AM), http://www.dispatch.com/content/stories/business/2014/08/10/electricity-companies-seek-some-regulation.html.

140. *See generally* S.A. Grady et al., *Placement of Wind Turbines Using Genetic Algorithms*, 30 RENEWABLE ENERGY 259 (2005) (describing case studies using various algorithms to determine optimal placement of wind turbines).

141. *See* ANDREW MILLS ET AL., ERNEST ORLANDO LAWRENCE BERKELEY NAT'L LAB., LBNL-1471E, THE COST OF TRANSMISSION FOR WIND ENERGY: A REVIEW OF TRANSMISSION PLANNING STUDIES 1 (2009), https://publications.lbl.gov/islandora/object/ir%3A152737/datastream/PDF/view.

142. *Id.*

143. Line loss refers to the energy that, due to resistance, is lost to heat as electricity is transmitted across the wires. Even at high voltage the amount of electricity lost in a typical transmission system is ten percent. TIMOTHY J. BRENNAN ET AL., ALTERNATING CURRENTS: ELECTRICITY MARKETS & PUBLIC POLICY 19–20 (2002).

transmission systems to tie these wind farms into existing infrastructure.[144] Since Ohio wind projects are typically located in rural areas with lower demand, transmission upgrades are necessary to transmit wind-generated energy to higher demand areas within the state, such as Cleveland and Cincinnati.

Despite their inefficiencies and increased costs, wind and other renewable energy alternatives may overcome their shortcomings by significantly reducing greenhouse gas emissions vis-à-vis fossil fuel electricity generation. Certainly, monetary costs cannot be the only factor used to determine the value of renewable energy. Environmental effects and negative externalities must be considered when assessing the cost of any energy alternative.[145] As such, wind energy has been identified as one of the lowest life cycle emitters of carbon dioxide among all renewable energy technologies.[146] Therefore, assuming carbon emissions from fossil fuel electricity generation plants are causing significant environmental and climate changes, wind-generated electricity may aid in halting or reversing that trend. Renewable energy does, in fact, have economic and efficiency tradeoffs.[147] Consumers should be able to evaluate these tradeoffs and be made aware of *both* the benefits and costs of renewable electricity generation. Consequently, the hidden and potentially high cost of wind power may have been one of the driving forces behind the passage of S.B. 310. S.B. 310 offered transparency to customers who otherwise may have been unaware of the hidden costs of renewable energy mandates. Ultimately, S.B. 310 allows policymakers and consumers the opportunity to assess the effects of these trade-offs in Ohio and determine whether the costs outweigh the benefits for their constituents.

D. *Changed Economic Conditions and the Emergence of Domestic Energy*

Since Ohio implemented its RPS mandate in 2009, the economic and energy landscape within the state has changed dramatically. In 2009, the United States was in the midst of the worst economic recession in de-

144. MILLS ET AL., *supra* note 141, at 45.

145. Jeremy Firestone & Jeffrey P. Kehne, *Wind*, *in* THE LAW OF CLEAN ENERGY, *supra* note 25, at 361, 367.

146. NAT'L RESEARCH COUNCIL, NAT'L ACAD. OF SCIS., ELECTRICITY FROM RENEWABLE RESOURCES: STATUS, PROSPECTS, AND IMPEDIMENTS 204 (2009), http://www.nap.edu/openbook.php?record_id=12619&page=204.

147. *See* John A. Baden & Pete Geddes, *Environmental Entrepreneurs: Keys to Achieving Wilderness Conservation Goals*, 76 DENV. U. L. REV 519, 527 (1999) ("Economists understand that whatever people claim, environmental quality is only one of several competing values they seek. They must trade-off more of some values for less of another.").

cades.[148] Also, the availability of affordable in-state energy, mostly natural gas, increased dramatically between 2008 and 2013. In fact, natural gas prices in Ohio dropped nearly thirty-five percent from 2008 to 2013.[149] According to Ohio Senator Shannon Jones, the environment under which S.B. 221 was passed was very different than the environment Ohio is currently in.[150] In fact, a principle motivation behind the original RPS and EERS mandates was to avoid "rate shock" whereby ratepayers were subject to wild swings in electricity costs due to upswings in natural gas prices.[151] What the legislature did not anticipate at the time, however, was the dramatic drop in price of natural gas, nor did they contemplate what shale development could mean for the long-term energy availability within the state.[152] In fact, in a 2014 concurring opinion, then-Chairman of the Public Utilities Commission of Ohio Todd Snitchler, recognized these changed conditions, stating that:

> Recently it has been stated in Senate legislative hearings that Ohio's current energy circumstances are not the same as in 2008; that statement is quite correct. Many changes have occurred in Ohio's energy marketplace in the . . . 5 years since the passage of S.B. 221, including: the economic recession and resulting impact on electricity demand [and] . . . the changing cost and sources of fuel . . . .[153]

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148. ALAN J. AUERBACH & WILLIAM G. GALE, URBAN-BROOKINGS TAX POLICY CTR, THE ECONOMIC CRISIS AND THE FISCAL CRISIS: 2009 AND BEYOND 1 (2009), http://www.brookings.edu/~/media/Research/Files/Papers/2009/2/19-fiscal-future-gale/0219_fiscal_future_gale.pdf.

149. *See* Energy Info. Admin., U.S. Dep't of Energy, *Data*, NATURAL GAS (Aug. 31, 2015), http://www.eia.gov/dnav/ng/ng_pri_sum_dcu_SOH_a.htm. During this time period, residential natural gas prices fell from $12.68 per thousand cubic feet to $9.46 per thousand cubic feet. *Id.*

150. Senate Floor Debate, May 7, 2014, 130th Gen. Assem., Reg. Sess. (Oh. 2014) (statement of Sen. Shannon Jones) (video recording), http://www.ohiochannel.org/MediaLibrary/MediaLibraryEmbed/OhioSenate/Media.aspx?fileId=143636.

151. *Id.*

152. *Id.* In her floor testimony, Senator Jones noted that she voted in favor of S.B. 221 at the time, but that time was "distinctly different seven years ago than it is today." *Id.* At the time, the legislature knew that RPS and EERS standards would be expensive but they were cheaper than their perceived alternative, building new base load coal plants to replace an aging inventory of generation. *Id.* She noted, however, that "none of us anticipated a dramatic drop in the cost of things like natural gas . . . [, and] we certainly never anticipated this huge shale development that is happening in the eastern part of the state . . . [and] are in a very different position in 2014 than we were in 2007 and 2008." *Id.*

153. Comm'n Investigation of Ohio's Retail Electric Serv. Mkt., Public Util. Comm'n of Ohio, No. 12-3151-EL-COI, at *41 (Mar. 24, 2014) (Chairman Snitchler, concurring), https://dis.puc.state.oh.us/TiffToPDf/A1001001A14C26B43025G70551.pdf.

Due to advances in hydraulic fracturing and horizontal drilling technology in conjunction with the discovery of several large shale reserves, the United States is expected to increase natural gas production by an average rate of 1.4% per year until 2040.[154] In fact, it is anticipated that the United States will transition from a net importer of natural gas to a net exporter during the same period.[155] Traditionally, natural gas from western states such as Texas and Oklahoma had to be transported to eastern states. However, recent discoveries of natural gas reserves in shale formations of the Appalachia region are projected to exceed 100% of demand for New England and the Mid-Atlantic.[156] S.B. 310 may have been passed to allow Ohio to utilize energy resources that were not envisioned at the time the mandates were passed. For instance, under the RPS moratorium, the EMSC has time to understand how these newfound resources will fit into Ohio's overall energy portfolio. Consequently the economic changes and new sources of domestic energy discussed above could have been logical motivators for the passage of S.B. 310. Furthermore, with an increasing abundance of local natural gas energy nationwide, other states would be wise to follow Ohio's "freeze and evaluate" model.

IV. S.B. 310 Should Be a Model for Other States

By adopting a moratorium on the RPS and EERS mandates, Ohio legislators showed that they were adaptive to changing conditions within the state. In fact, one of the primary qualities of an effective legislator is her ability to be adaptable "and [be] prepared to reassess and reconsider a previously determined course of action. When circumstances change, the [legislator] is then able to adapt to the new conditions quickly, and adjust tactics and strategies."[157] Ohio legislators passed S.B. 310 in order to reassess the current energy paradigm in light of changed circumstances. This type of prudent lawmaking can serve as a model for other similarly situated states.

Ohio may already be starting a trend among states to reevaluate its RPSs in light of ever-changing domestic energy conditions. As of August 2014, twenty-four states had energy efficiency standards in place; recently, however, two states have rolled back their energy efficiency mandates.[158]

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154. Energy Info. Admin., *supra* note 115, at A-1.

155. *Id.*

156. Energy Info. Admin., U.S. Dep't of Energy, DOE/EIA-0383(2014), Annual Energy Outlook 2014, at MT-25 (2014), http://www.eia.gov/forecasts/aeo/pdf/0383(2014).pdf.

157. Thomas H. Little & David B. Ogle, The Legislative Branch of State Government: People, Process, and Politics 85 (2006).

158. *Energy Efficiency Resource Standard (EERS)*, Am. Council for an Energy-Efficient Econ., http://aceee.org/topics/energy-efficiency-resource-standard-eers (last visited Aug. 23, 2015).

Like Ohio, Indiana reevaluated energy efficiency mandates in the face of increasing economic strain on large energy-intensive companies.[159] In 2014, Indiana passed Senate Bill 340, which was intended to relieve manufacturers of the burden of increased electricity costs by allowing industrial customers the opportunity to opt-out of energy efficiency programs.[160] The Indiana opt-out provision, similar to that in Ohio S.B. 310, allowed for increased focus on energy efficiency while allowing manufacturers within the state to remain competitive in a global marketplace.[161] Again, the opt-out provision represents a compromise, allowing job-creating manufacturers to reduce energy usage in a cost effective manner and, like Ohio's S.B. 310, allows opt-out customers the opportunity to opt back in to the utility's portfolio plan if it subsequently becomes more cost-effective.[162]

In February 2015, West Virginia repealed its RPS, which had been in place since 2009.[163] Upon signing House Bill 2001, which repealed the West Virginia RPS, Governor Tomlin pointed to changed circumstances within the state as necessitating the repeal, stating, "We understand economic drivers and factors change over time, and the Act as it was passed in 2009 is no longer beneficial for our state."[164] Similarly, the Colorado Senate recently approved a bill to reduce their RPS requirements to 15% from 30% for the years 2020 and thereafter.[165] Recently Texas, a state which generates more

159. *See* S.E.A. 340, 118th Gen. Assemb., Second Reg. Sess., (Ind. 2014), 2014 Ind. Acts *1–4, (codified at IND. CODE § 8-1-8.5-9(f) (2014)).

160. *Id.*

161. *See* Press Release, Governor Mike Pence, Governor Pence Calls for New Direction of Energy Efficiency in Indiana (Mar. 27, 2014). Indiana governor, Mike Pence, allowed Indiana Senate Bill 340 to become law without his signature, stating, "Low-cost energy is an essential element of Indiana's economic development and prosperity. The simple fact is that higher energy costs will cost Indiana jobs. By reducing our need for electricity, we reduce our need to build expensive power plants at a cost to Hoosier ratepayers. For this reason, I believe that energy efficiency is an important part of our 'all of the above' energy strategy . . . . I could not veto this bill because doing so would increase the cost of utilities for Hoosier ratepayers and make Indiana less competitive by denying relief to large electricity consumers, including our state's manufacturing base." *Id.*

162. *See* S.E.A. 340, 118th Gen. Assemb., Second Reg. Sess. (Ind. 2014), 2014 Ind. Acts *2 (codified at IND. CODE § 8-1-8.5-9(f) (2014)).

163. *See* H.B. 2001, 2015 Reg. Sess. (W. Va. 2015), 2015 W. Va. Acts *1 (codified at W. VA. CODE § 24-2F (2015)).

164. *See* Press Release, Gov. Earl Ray Tomblin, Governor Tomblin Approves Repeal of Alternative Renewable Energy Portfolio Act (Feb. 3, 2015), http://www.governor.wv.gov/media/pressreleases/2015/Pages/GOVERNOR-TOMBLIN-APPROVES-REPEAL-OF-ALTERNATIVE-RENEWABLE-ENERGY-PORTFOLIO-ACT.aspx.

165. *See* S.B. 15-044, 70th Gen. Assemb., Reg. Sess. (Colo. 2015), 2015 Colo. Sess. Laws *3.

electricity from wind resources than any other, introduced a bill to repeal its RPS as of 2015.[166]

As these cases illustrate, prudent lawmaking requires constant evaluation of current and future conditions. As the energy sector in the United States continues to expand, States should reconsider current energy and environmental policies to strike a balance between resource utilization and environmental considerations. Interestingly, natural gas seems to exemplify a balance between domestic energy utilization and environmental prudence. Switching to natural gas for electricity generation offers an immediate reduction in carbon dioxide emissions. On average, natural-gas fired generation in the United States produces 50% less carbon dioxide than coal-fired generation.[167] And while it would be ideal, from an environmental perspective, to abandon fossil fuel generation altogether, "that is not an option for either the short or medium term."[168] Therefore, natural gas production offers potentially significant reductions in carbon dioxide emissions while allowing states to exploit abundant domestic energy. Thus, in light of changing economic and domestic energy conditions, a "freeze and evaluate" approach is prudent and should be considered by other energy-producing states.

Conclusion

Ohio S.B. 310 was not, as critics contend, passed primarily for the benefit of several large interest groups. Instead, it was passed to provide customers with more transparency regarding the costs of wind energy and in response to the changed economic and energy conditions in Ohio. Thanks to S.B. 310, Ohio lawmakers have an opportunity to assess the costs and benefits of a law that radically transformed the state's environmental and

166. *See* Angela Neville, *Wind Energy Faces Strong Head Winds in Austin*, Texas Lawyer (Apr. 3, 2015), http://www.texaslawyer.com/home/id=1202722579568/Wind-Energy-Faces-Strong-Head-Winds-in-Austin?mcode=1202616608548&curindex=2&slreturn=20150309184257.

167. *See* Energy Info. Admin., U.S. Dep't of Energy, *How Much Carbon Dioxide is Produced When Different Fuels Are Burned?*, Frequently Asked Questions, http://www.eia.gov/tools/faqs/faq.cfm?id=73&t=11 (last updated Aug. 31, 2015) (reporting that natural gas emits 117 pounds of CO2 per million Btus of energy while anthracite and bituminous coal emit 228.6 and 205.7 pounds respectively). *But see* Ramón A. Alvarez et al., *Greater Focus Needed on Methane Leakage from Natural Gas Infrastructure*, 109 Proceedings of the Nat'l Acad. of Scis. 6435 (2012) (noting that while natural gas-fired generation has lower carbon emissions than coal-fired generation, methane leakage from the production of natural gas may offset the environmental benefits).

168. Paul Breeze, *Coping with Carbon: A Near-Term Strategy to Limit Carbon Dioxide Emissions from Power Stations*, 366 Phil. Trans. Royal Soc'y Acads. 3891, 3892 (2008), http://rsta.royalsocietypublishing.org/content/roypta/366/1882/3891.full.pdf.

electricity policy. As Ohio Senator Troy Balderson noted, the purpose of S.B. 310 was diversity and to ensure that all of Ohio's resources are utilized as efficiently and cost-effectively as possible.[169]

S.B. 310 did not repeal Ohio's RPS. Instead, through compromise, it created the EMSC to assess Ohio's current regulatory landscape. S.B. 310's two-year moratorium on the RPS and EE mandates was necessary to give the EMSC time to conduct its assessment without the risk of rapidly escalating benchmarks severely straining ratepayers. The environmental and energy landscape of the United States has changed drastically since the implementation of Ohio's RPS and EERS mandates five years ago. As such, prudent lawmaking requires reassessment of laws based on changed circumstances. And while the complete abandonment of fossil fuel generated electricity is certainly a worthwhile long-term goal, S.B. 310 allows Ohio to balance economic and environmental concerns in the short term. The rest of the nation would be wise to follow Ohio's lead.

169. Telephone Interview with Sen. Troy Balderson, sponsor of Ohio S.B. 310 (Feb. 11, 2015).