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Comments

Green Acres: How Bringing Pennsylvania Rural Electric Cooperatives Under the Full Provisions of the Alternative Energy Portfolio Standard Can Boost Renewable Energy Growth in Pennsylvania

Zachary Brecheisen*

I. INTRODUCTION

In 2004, Pennsylvania passed the Alternative Energy Portfolio Standard Act (“AEPS”), requiring electric generators and distributors to procure an increasing percentage of the electrical power sold in the Commonwealth of Pennsylvania (“Pennsylvania” or the “Commonwealth”) from renewable sources.¹ The Pennsylvania General Assembly (“General Assembly”) passed the AEPS to promote the growth of renewable energy projects in Pennsylvania with an eye towards reaching an energy independent future.² The AEPS requires investor-owned utilities (“IOUs”) in Pennsylvania to procure eighteen

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1. 73 PA. CONS. STAT. §§ 1648.1-1648.8 (2010).

2. *See, e.g.*, Press Release, Governor Rendell Ceremoniously Signs Legislation to Expand Alternative Energy Use, Attract Growth to Solar Industry (Aug. 23, 2007) (on file with author).

percent of the power they sell within the Commonwealth from “alternative” energy sources by January 1, 2021.³ Eligible “alternative” energy sources include biomass, hydroelectric, wind, solar, geothermal, and others.⁴

Conspicuously missing from the AEPS, however, is a requirement that the Commonwealth’s rural electric cooperatives fully participate in this program.⁵ Rural electric cooperatives (“RECs” or “Cooperatives”) maintain a smaller, but significant, transmission and distribution infrastructure in the Commonwealth and serve several expansive regions in rural and suburban Pennsylvania.⁶ In large measure, these Cooperative-serviced territories overlap with geographic segments of the Commonwealth that are rich in wind, biomass, solar, and hydropower resources.⁷ As a result, the General Assembly’s decision to exempt Cooperatives from the AEPS has the consequence of exempting demand for increased renewable generation in many areas within the Commonwealth where the potential for renewable energy production is greatest.

This comment will examine the regulatory framework of the AEPS and the potential to expand renewable power generation in the Commonwealth by including a mandate for Cooperative compliance in Section 1648.3⁸ of the statute. Based on this analysis, this comment will recommend that the General Assembly amend the AEPS to require that Pennsylvania Cooperatives comply with Section 1648.3. Finally, this comment will conclude by discussing the specific statutory changes that will best accomplish this goal.

II. BACKGROUND

Both the private and public sectors have increasingly recognized a need to derive electrical power from renewable sources of energy.⁹ State

3. 73 PA. CONS. STAT. § 1648.3.

4. *Id.* § 1648.2.

5. *Compare* 73 PA. CONS. STAT. § 1648.8, *with* 73 PA. CONS. STAT. § 1648.3 (requiring only investor-owned utility compliance with the 2021 alternative energy goals).

6. *See* Pennsylvania Rural Electric Association, Pennsylvania/New Jersey Territorial Map, <http://www.prea.com/Content/member-cooperatives.asp> (last visited Feb. 4, 2011).

7. *Compare id.*, *with* Energy Information Administration, Pennsylvania State Energy Profile Map, http://tonto.cia.doc.gov/state/state_energy_profiles.cfm?sid=PA (last visited Feb. 4, 2011).

8. 73 PA. CONS. STAT. § 1648.3 (listing the minimum renewable energy percentages for electric utilities).

9. *See, e.g.*, Brad A. Kopetsky, Comment, *Deutschland Uber Alles: Why German Regulations Need to Conquer the Divided U.S. Renewable-Energy Framework to Save Clean Tech (and the World)*, 8 WIS. L. REV. 941, 942 (2008) (highlighting the move by

legislatures have expressed a desire for a sustainable energy future based on a strong renewable energy sector, exhibited by the creation of state-wide renewable energy goals in thirty-five states and the District of Columbia.¹⁰ In substantial part, the creation and success of a sustainable energy future will ultimately require America to transition away from its current heavy dependence on traditional sources for generating electrical power.¹¹ At its core, the underlying rationale for this shift is complex and encompasses numerous objectives, including the creation of domestic jobs,¹² reducing dependence on foreign energy sources,¹³ and staving off global warming.¹⁴ Also present among these goals, however, is the acknowledgment that traditional sources of power generation like coal, oil, and natural gas are finite and will eventually exhaust.¹⁵ Of additional concern is the negative impact that using “dirty” sources like fossil fuels has on the environment.¹⁶ In light of these concerns, various States—beginning in the mid-1990s and early 2000s—have introduced Renewable Portfolio Standards.¹⁷

governments and the private sector to deal with the problems associated with reliance on carbon-based fuels by encouraging the growth and use of clean energy technologies); Senators Debbie Stabenow, Kay Hagan & Mark Udall, Op-Ed., *Clean Energy Economy: Economic Key to the 21st Century*, POLITICO, Nov. 17, 2010, <http://www.politico.com/news/stories/1110/45261.html> (“[T]he country that first develops and integrates affordable clean energy technologies is likely to dominate the 21st century global economy—and create the jobs that go along with it.”).

10. National Conference of State Legislatures, *State Renewable Portfolio Standards*, <http://www.ncsl.org/?tabid=17571> (last visited Feb. 4, 2011).

11. See Senator Debbie Stabenow et al., Op-Ed., *supra* note 9.

12. See, e.g., Press Release, Governor Rendell Ceremoniously Signs Legislation, *supra* note 2 (noting the need to reduce dependence on foreign fuels and create domestic jobs).

13. Pennsylvania Legislative Journal—House, Nov. 20, 2004, at 2257 (statement by Representative Rubley arguing the need for the AEPS to reduce dependence on foreign oil and gas).

14. Seth Cox, Comment, *A Regulatory Reinterpretation to Blow Away Dirty Energy?*, 17 MO. ENVTL. L. & POL’Y REV. 258, 261 (2010) (“The world is moving towards a renewable energy economy, motivated in part by the well-established impacts of conventional energy sources—the most notorious is global warming.”). See also Lincoln L. Davies, *Power Forward: The Argument for a National RPS*, 42 CONN. L. REV. 1339, 1358 (2010).

15. For example, with increased demand in both industrialized and developing countries, global oil supplies are expected to severely diminish in the next 50 years and coal supplies are similarly expected to deplete in the next 200 years. ROBERT GOLDSCHIEDER, LICENSING AND THE ART OF TECHNOLOGY MANAGEMENT § 17:57 (2009).

16. For example, the use of coal for energy generation is responsible for sizeable amounts of toxic waste and airborne pollutants. Cox, *supra* note 14, at 261. Additionally, the carbon dioxide (CO₂) emissions from the combustion of fossil fuels for energy generation are a significant contributor to global warming. *Id.*

17. Davies, *supra* note 14, at 1357-59.

A. *Renewable Portfolio Standards*

A Renewable Portfolio Standard (“RPS”) is a state requirement mandating that a minimum percentage of electric power sold within the state come from renewable energy sources.¹⁸ Generally, the RPS applies to both power generators who sell to retail distributors, and the retail distributors who sell power directly to consumers.¹⁹ Typically, the minimum percentage starts low and then gradually increases toward a final goal of around fifteen to thirty percent²⁰ at a designated end year.²¹ Compliance with these requirements is normally enforced by a state’s public utility commission.²² As of August, 2010, twenty-nine states had enacted mandatory RPSs²³ and, where implemented, these RPSs have generally been successful in spurring growth in renewable energy generation over the last decade.²⁴

Although states sometimes differ on what constitutes a renewable energy source, most biomass,²⁵ hydro,²⁶ solar photovoltaic (“solar PV”),²⁷ solar thermal,²⁸ and wind²⁹ sources are considered renewable and are therefore eligible under an RPS.³⁰ State regulations also differ somewhat as to which utilities are subject to the state RPS.³¹ Almost all

18. *See id.* at 1341-42.

19. *See, e.g.*, 73 PA. CONS. STAT. § 1648.3(a)(1) (2010).

20. National Conference of State Legislatures, *supra* note 10.

21. Davies, *supra* note 14, at 1359.

22. *See id.*

23. *See* National Conference of State Legislatures, *supra* note 10; Kelly Crandall, Comment, *Trust and the Green Consumer: The Fight for Accountability in Renewable Energy Credits*, 81 U. COLO. L. REV. 893, 908 (2010).

24. Studies have estimated over half of the new renewable energy capacity in the country over the last decade has occurred in states with RPSs. *See* Steven Ferrey, Chad Laurent & Cameron Ferrey, *Fire and Ice: World Renewable Energy and Carbon Control Mechanisms Confront Constitutional Barriers*, 20 DUKE ENVTL. L. & POL’Y F. 125, 149 (2010). Likewise, approximately 45% of the new wind-power capacity installed in the United States from 2001 to 2004 was motivated by state RPSs. *See id.* at 150.

25. *See* Benjamin K. Sovacool & Christopher Cooper, Symposium, *Nuclear Nonsense: Why Nuclear Power is no Answer to Climate Change and the World’s Post-Kyoto Energy Challenges*, 33 WM. & MARY ENVTL. L. & POL’Y REV. 1, 87 (2008) (defining biomass as the generation of power from the combustion of agricultural residues, wood chips, forest wastes, energy crops, municipal and industrial wastes, trash, and biomass gasification techniques).

26. *See id.* (defining hydro sources to include both large-scale hydro that impedes and regulates water flow, and low-impact hydro facilities).

27. *See id.* at 86 (explaining that solar photovoltaic or “PV” cells are solar cells that use “flat plate” semiconductor wafers to convert sunlight into electrical energy).

28. *See id.* at 87 (describing solar thermal systems as “concentrating” collection systems that use mirrors and other reflective surfaces to concentrate solar radiation and use the resulting high temperatures to produce steam that powers turbine generators).

29. *See id.* at 86 (explaining that wind turbines convert the flow of air into energy).

30. *See* Ferrey, *supra* note 24, at 146.

31. *See* National Conference of State Legislatures, *supra* note 10.

states mandate IOU compliance with the RPS; however, many states hold Cooperatives to a lower standard.³² Although some states require full participation from RECs,³³ most states either hold Cooperatives to a lower minimum renewable percentage³⁴ or allow Cooperatives to participate in the full requirements of the RPS voluntarily.³⁵

B. Rural Electric Cooperatives

Rural Electric Cooperatives³⁶ are customer-owned utilities created to serve primarily rural areas across the nation.³⁷ Cooperatives, unlike traditional investor-owned utilities, are not beholden to shareholders, but are controlled instead by a board of directors elected by their customer-members.³⁸ Cooperative incorporation and operation is governed by state law, which establishes RECs as non-profit corporations.³⁹ As non-profit entities, Cooperatives are generally required to credit revenues in excess of annual operating expenses back to their members.⁴⁰

Spurred by the passage of the Rural Electrification Act of 1936,⁴¹ states created RECs with the goal of bringing affordable electrical power to rural areas across the country.⁴² The Rural Electrification Act of 1936 assisted this goal by authorizing the federal government to make low-

32. *See id.*

33. *See, e.g.*, MICH. COMP. LAWS §§ 460.1021-.1053 (Supp. 2010) (Michigan RPS requiring all electric utilities to adhere to a 10% renewable energy minimum by 2015).

34. *See, e.g.*, N.C. GEN. STAT. § 62-133.8 (2008) (North Carolina RPS requiring investor-owned utilities to meet a 12.5% renewable power minimum by 2021 and RECs to meet a 10% minimum by 2018); N.M. STAT. §§ 62-16-1 to -10, 62-15-34 to -37 (2007) (New Mexico RPS requiring investor-owned utilities to meet a 20% renewable power minimum by 2020 and RECs to meet a 10% minimum); COLO. REV. STAT. § 40-2-124 (2010) (Colorado RPS requiring IOUs to meet a 30% renewable goal and RECs to meet a 10% minimum).

35. *See, e.g.*, MO. REV. STAT. §§ 393.1020-.1150 (2010) (Missouri RPS requiring only investor-owned utilities meet the 15% minimum by 2021).

36. Also known as Electric Membership Cooperatives or Electric Cooperatives.

37. *See, e.g.*, *Pee Dee Elec. Membership Corp. v. Carolina Power & Light Co.*, 117 S.E.2d 764, 769 (N.C. 1961) (stating the scope of Pee Dee EMC's membership is restricted to rural areas under North Carolina statute).

38. National Rural Electric Cooperative Association, About Co-ops, <http://www.nreca.org/AboutUs/Co-op101.htm> (last visited Feb. 4, 2011).

39. *See, e.g.*, 15 PA. STAT. §§ 7301-7410 (2010) (governing the incorporation and operation of rural electric cooperatives).

40. *See id.*; Restated Bylaws of A&N Electric Cooperative, A & N Electric Cooperative (June 28, 2007) (on file with author), available at http://www.anec.com/aboutus/bylaws_070628.pdf (last visited Feb. 4, 2011) (Article VII—Cooperative Operation, being a typical example of an REC's non-profit operation).

41. 7 U.S.C. § 901-918(c) (2006). These sections were originally enacted as the Rural Electrification Act of 1936, ch. 432, §1, 49 Stat. 1363. As such—and for purposes of simplicity and convenience—this comment will continue to reference these sections, collectively, as the Rural Electrification Act of 1936.

42. 29 C.J.S. *Electricity* § 24 (2010).

interest, long-term loans⁴³ for the purpose of building and maintaining infrastructure that provides electricity to consumers in rural areas.⁴⁴ Additionally, the federal government currently gives RECs Section 501(c)(12)⁴⁵ tax-exempt organization status.⁴⁶ Although the Rural Electrification Act of 1936 effectively fosters the creation of Cooperatives, once created, the RECs are primarily regulated by state law.⁴⁷

Today, these Cooperatives are still critical to the process of supplying electricity to rural consumers because they primarily serve sparsely-populated areas,⁴⁸ which many IOUs have historically considered unprofitable and are thus hesitant to serve.⁴⁹ Without RECs, consumers in these rural areas could face higher electricity rates or have to do without power altogether.⁵⁰ Currently, RECs across the country account for approximately ten percent of the total kilowatt-hours (“kWh”) of electric power sold annually in the United States and approximately five percent of kWh generated.⁵¹ Cooperatives also control and operate approximately forty-three percent of all electrical distribution lines in the country, serving over 17 million consumers⁵² in rural and suburban areas.⁵³

43. At present, the loan program is administered by the Rural Utilities Service under the United States Department of Agriculture. See United States Department of Agriculture, Program and Customer Service, <http://www.usda.gov/rus/electric/service.htm> (last visited Feb. 4, 2011).

44. See 7 U.S.C. § 901-918(c); *City of Stilwell, Okla. v. Ozarks Rural Elec. Coop. Corp.*, 79 F.3d 1038, 1044 (10th Cir. 1996) (“The purpose of the REAct is to ‘electrify rural America at affordable rates and with area coverage.’”) (quoting *Pub. Util. Dist. No. 1 v. United States*, 417 F.2d 200, 201 (9th Cir. 1969)).

45. I.R.C. § 501(c)(12) (2010).

46. As long as 85% or more of the corporation’s income from rate-payers is for the sole purpose of meeting losses and expenses. *Id.*

47. See *Ark. Elec. Coop. Corp. v. Ark. Pub. Serv. Comm’n*, 461 U.S. 375, 386 (1983) (“[T]he legislative history of the Rural Electrification Act [of 1936] makes abundantly clear that, although the REA was expected to play a role in assisting the fledgling rural power cooperatives in setting their rate structures, it would do so within the constraints of existing state regulatory schemes.”).

48. On average, cooperatives serve 7 customers per mile of distribution line, compared to 35 for IOUs and 47 for municipal electric utilities. National Rural Electric Cooperative Association, About Co-ops, *supra* note 38.

49. U.S. Energy Information Administration, Electric Power Industry Overview 2007, <http://www.eia.doe.gov/electricity/page/prim2/toc2.html> (last visited Feb. 4, 2011) (see “Cooperative electric utilities” section).

50. See *id.*

51. See National Rural Electric Cooperative Association, Co-ops by the Numbers, <http://www.nreca.org/AboutUs/Co-op101/CooperativeFacts.htm> (last visited Feb. 4, 2011).

52. Which translates into over 42 million people. See *id.*

53. See *id.*

III. DISCUSSION

A. *Pennsylvania's Alternative Energy Portfolio Standard*

Pennsylvania introduced its RPS, the Alternative Energy Portfolio Standard Act, in 2005.⁵⁴ The General Assembly enacted the AEPS to spur job growth in the renewable energy sector,⁵⁵ reduce dependence on foreign fuels,⁵⁶ and protect the environment.⁵⁷ Supporters of the AEPS legislation argued that, by diversifying the Commonwealth's energy sources, consumers will be protected in the long run from the inevitable increase in energy costs as fossil fuel sources are depleted.⁵⁸ Stressing the need to encourage diversity in the energy resource market, Representative Bard—Chairman of the Pennsylvania House Subcommittee on Energy during the 2004 passage of the AEPS—noted that dependency on imported natural gas and oil has caused a national crisis in the energy sector due to an increased demand from China and developing nations, as well as the continued depletion of current resources.⁵⁹ Since the original enactment of the AEPS in 2005, the General Assembly has continued to stress the need for increased renewable energy generation—and its accompanying benefits—within the Commonwealth.⁶⁰

54. 73 PA. CONS. STAT. §§ 1648.1-1648.8 (2010).

55. See Pennsylvania Legislative Journal-House, Nov. 20, 2004, at 2255 (statement of Representative George arguing the AEPS will create thousands of construction jobs); *Id.* at 2257 (statement of Representative Rubley arguing the AEPS's ability to attract new energy companies, investment and facilities to Pennsylvania to develop renewable energy products and infrastructure); *Id.* at 2258 (statement of Representative Bard, Chairman of the House Subcommittee on Energy, referencing "study after study" showing that a state RPS will "lead to more jobs in the longer term and economic savings to consumers"); Press Release, Governor Rendell Ceremoniously Signs Legislation, *supra* note 2.

56. See Pennsylvania Legislative Journal-House, Nov. 20, 2004, at 2257 (statements of Representative Rubley arguing that the AEPS will reduce dependence on foreign oil and gas imports and Representative Adolph citing a Black & Veatch study, *infra* note 182, showing that an RPS in Pennsylvania will create 3,000 jobs).

57. See Pennsylvania Legislative Journal-House, July 16, 2007 at 2050 (statement of Representative Hornaman noting the amended AEPS will "prevent millions of tons of pollutants from being discharged into the air that we breathe"); Pennsylvania Legislative Journal-House, Nov. 20, 2004, at 2258 (statement of Representative Daley explaining the environmental benefits of cleaning up waste coal in the Commonwealth, which can be used as a Tier II alternative energy resource).

58. Pennsylvania Legislative Journal-House, Nov. 20, 2004, at 2257-58. See also *id.* at 2258 (statement of Representative George arguing diversification of energy sources will bring consumer costs down).

59. Pennsylvania Legislative Journal-House, Nov. 20, 2004, at 2257-58.

60. In amending the AEPS in 2008 with Act 129, the General Assembly noted its objectives: "(1) The health, safety and prosperity of all citizens of this Commonwealth are dependent upon the availability of . . . environmentally sustainable electric service at the least cost, taking into account any benefits of price stability over time and the impact

In its current amended form, the AEPS requires at least eighteen percent of the retail⁶¹ electricity sold by electric generators and retail electric distributors to come from “alternative”—aka renewable—energy sources by January 1, 2021 (“Section 1648.3 schedule”).⁶² The required energy sources are divided into two tiers, with eight percent of all power sales by 2021 coming from Tier I sources,⁶³ and the remaining ten percent of all power sales by 2021 coming from Tier II sources.⁶⁴ Tier I sources include: (1) solar (both PV and thermal);⁶⁵ (2) wind; (3) low-impact hydropower;⁶⁶ (4) geothermal; (5) methane gas; (6) fuel cells; (7) biomass; (8) coal mine methane; and (9) wood-pulping by-products from within the Commonwealth.⁶⁷ The AEPS also requires, as part of the eight percent Tier I total, that one-half of one percent of all retail power sold by 2021 specifically come from solar PV technologies.⁶⁸ Tier II sources include: (1) waste coal;⁶⁹ (2) distributed generation systems; (3) demand-side management; (4) large-scale hydropower; (5) municipal solid waste; (6) wood-pulping by-products from outside the Commonwealth; and (7) integrated combined coal gasification technology.⁷⁰ Although the AEPS requires that a minimum percentage of the retail power sold within the Commonwealth come from alternative sources, the location of the alternative power generator need not be physically within the Commonwealth.⁷¹ That is, a distribution utility can obtain power from alternative energy sources outside Pennsylvania, as

on the environment (3) It is in the public interest to expand the use of alternative energy and to explore the feasibility of new sources of alternative energy to provide electric generation to this Commonwealth.” Act 129 of 2008, Pub. L. No. 1592-129, § 5, 2008 Pa. Laws 1592 (codified in 66 PA. CONS. STAT. § 2814 (2010)).

61. Retail power sales are sales made to the ultimate consumer of the electricity.

62. 73 PA. CONS. STAT. § 1648.3(a)(1).

63. *Id.* § 1648.3(b).

64. *Id.* § 1648.3(c).

65. Thermal added by Act of July 17, 2007, Pub. L. No. 114-35, § 1, 2007 Pa. Laws 114 (codified in 73 PA. CONS. STAT. § 1648.2).

66. As amended by Act 129 of 2008, Pub. L. No. 1592-129, § 5, 2008 Pa. Laws 1592 (codified in 66 PA. CONS. STAT. § 2814(a)).

67. *Id.* See also 73 PA. CONS. STAT. § 1648.2.

68. 73 PA. CONS. STAT. § 1648.3(b)(2).

69. Waste coal is a mixture of lower-grade coals (low energy content) created as a by-product of the coal-mining process, which mine operators typically dump in piles near the mine. David Samlin, *Groce v. Department of Environmental Protection: Affirmative Combustion in Pennsylvania*, 19 VILL. ENVTL. L.J. 405, 411 (2008). Although not considered a “renewable” energy source, the use of waste-coal is considered “green” energy because the piles can leak sulfuric acid and hydrogen sulfide into the groundwater, causing significant environmental damage. *Id.*

70. 73 PA. CONS. STAT. § 1648.2.

71. *Id.* § 1648.4; Pa. Power Co. v. Pub. Util. Comm’n, 932 A.2d 300, 308 (Pa. Commw. Ct. 2007) (“The plain language of the statute does not restrict access to out-of-state alternative energy projects to only those that are within the same service territory as the distribution companies.”).

long as the sources are within the territory of the PJM Interconnection regional transmission organization (“PJM RTO”), which encompasses the Commonwealth.⁷²

The Pennsylvania Public Utilities Commission (“PPUC” or “Commission”) is tasked with regulating and enforcing the AEPS requirements within the Commonwealth.⁷³ The PPUC uses a system of Alternative Energy Credits (“AEC”) to track alternative energy generation and sales.⁷⁴ An AEC is “a tradable instrument that is used to establish, verify and monitor compliance with the AEPS.”⁷⁵ One AEC represents one megawatt-hour (“MWh”)⁷⁶ of qualified alternative energy generation.⁷⁷ The AEC begins as the property of the renewable power generator until voluntarily given up or sold.⁷⁸ An independent agency, PJM Environmental Information Service, Inc., administers the AEC program via their Generation Attribute Tracking System.⁷⁹ The AEPS allows electric distributors to obtain AECs by either: (1) self-generating the power; (2) purchasing AECs along with the electric power from the generator; or (3) purchasing AECs on the market as a separate tradable instrument that is not tied to any actual power purchased by the utility (“unbundled AEC”).⁸⁰ Even if electric distributors seek to purchase

72. PJM Interconnection, L.L.C. coordinates the movement of wholesale electricity in a region including all or part of Pennsylvania, New Jersey, Delaware, Maryland, Washington D.C., Virginia, West Virginia, North Carolina, Tennessee, Kentucky, Ohio, Michigan, Indiana, and Illinois. *See* 73 PA. CONS. STAT. § 1648.4 (“For purpose of compliance with this act, alternative energy sources located in the PJM Interconnection, L.L.C. regional transmission organization . . . service territory shall be eligible to fulfill compliance obligations of all Pennsylvania electric distribution companies and electric generation suppliers.”); *Pa. Power Co.*, 932 A.2d at 308.

73. *Implementation of the Alternative Energy Portfolio Standards Act*, Pennsylvania Public Utility Commission Docket No. M-00051865, 35 Pa. Bull. 2183 (April 9, 2005) (codified in 52 PA. CODE §§ 75.61-.70 (2010)).

74. *See* 73 PA. CONS. STAT. § 1648.3(e).

75. *See id.* § 1648.2.

76. One megawatt-hour represents 1,000 kilowatt-hours of electricity. In 2009, an average Pennsylvania residential consumer consumed approximately 0.842 MWh of electricity per month to power her residence. Energy Information Administration, Frequently Asked Questions Electricity, http://www.eia.doe.gov/ask/electricity_faqs.asp#electricity_use_home (last viewed Feb. 4, 2011) (follow “Average monthly residential electricity consumption, prices, and bills by state” hyperlink for Excel sheet of state-by-state average residential consumer kWh usage).

77. *See* 73 PA. CONS. STAT. § 1648.2.

78. *See id.* § 1648.3(e)(12).

79. *See* 52 PA. CODE § 75.64 (2010) (describing the duties of the AEC program administrator); PENNSYLVANIA PUBLIC UTILITY COMMISSION, 2008 AND 2009 ANNUAL REPORTS, ALTERNATIVE ENERGY PORTFOLIO STANDARDS ACT OF 2004 11 (2010), available at http://paaeps.com/credit/getFile?user.do?file=AEPSReport_08-09.pdf&docdir=true.

80. *See* Crandall, *supra* note 23, at 912 (“Because [renewable energy credits] represent the environmental attributes of renewable energy instead of the renewable

unbundled AECs, those AECs must be originally tied to an alternative energy source generator within the PJM RTO.⁸¹ To achieve compliance, the qualifying electric utility need only show the program administrator that it has sufficient AECs at year-end to meet the minimum alternative energy percentage for that year.⁸² This arrangement allows electric utilities to comply with the AEPS, even though they may not currently possess the resources to either self-generate power from alternative energy sources or to purchase power directly from alternative energy generators.⁸³ In turn, any AECs earned in excess of those required to meet the minimum alternative energy percentage in a given year may be “banked” for up to two subsequent years.⁸⁴

The creation and trading of AECs—and similar renewable energy credits from other states with RPSs—has effectively produced a “compliance market”⁸⁵ for AECs within the PJM RTO.⁸⁶ Generators, utilities, and even the public at large can buy and sell AECs in this market much like any other commodity.⁸⁷ Moreover, much like other commodity markets, the market for AECs operates largely on the basis of supply and demand, whereby an increased demand for AECs will produce a parallel increase in price and will subsequently provide incentive for a corresponding increase in supply (or, rather, generation, as is the case with AECs).⁸⁸ Indeed, this notion of supply and demand in the energy market is the driving theory behind an RPS.⁸⁹ By creating regulations that increase electric utilities’ demand for renewable energy generation, states can spur the growth of renewable energy generation in the market in order to accommodate—and ultimately satisfy—this new demand.⁹⁰ Notably, however, the multi-state markets for renewable energy credits are relatively unregulated, and the Federal Energy

energy itself, they can be sold separately from the actual electricity produced by renewable generators.”); 73 PA. CONS. STAT. § 1648.3(e)(4)(ii); 52 PA. CODE § 75.61(a).

81. See 52 PA. CODE § 75.61(a).

82. See *id.*

83. See Crandall, *supra* note 23, at 896.

84. See 73 PA. CONS. STAT. § 1648.3(e)(6); 52 PA. CODE § 75.69.

85. Crandall, *supra* note 23, at 906.

86. The PJM RTO sets up a market whereby only entities located inside the PJM geographic boundaries can trade AECs. Ferrey, *supra* note 24, at 160.

87. Crandall, *supra* note 23, at 906-08.

88. See Robert A. Reiley, Symposium, *Financial Incentives and the Leadership Role Taken by Pennsylvania and Other States to Bring Green Energy to the Free Market*, 18 WIDENER L.J. 897, 927 (2009) (“The energy market will propel the development of renewable energy to meet the alternative energy portfolio standard.”).

89. See *id.* See also Ferrey, *supra* note 24, at 165.

90. See Reiley, *supra* note 88, at 927.

Regulatory Commission has largely left issues of credit ownership and tracking to the discretion of the states.⁹¹

The AEPS has several exemptions for qualifying electric generators and utilities, which help ease the transition into compliance with the Section 1648.3 schedule.⁹² First, the AEPS gives utilities two years from the effective date⁹³ of the AEPS until at least one and one-half percent of the energy sold by that utility must come from Tier I sources.⁹⁴ The PPUC interpreted this provision to hold that AEPS compliance would effectively commence on February 28, 2007, not immediately after the law took effect in February of 2005.⁹⁵

More importantly, the AEPS exempts utilities from complying with the Section 1648.3 schedule during a “Cost-Recovery Period.”⁹⁶ The Cost-Recovery Period is the longer of (1) the period for which competitive or intangible transition charges are being collected within the given service territory, or (2) the duration of the generation rate caps approved by the PPUC.⁹⁷ The last of Pennsylvania’s nine investor-owned electrical distribution companies ended its cost-recovery period on January 1, 2011.⁹⁸ Because the cost-recovery period has now ended, these formerly-exempted utilities are now required to comply with the minimum alternative energy percentages required for that given year.⁹⁹

Finally, the AEPS gives the PPUC considerable leeway in applying the Section 1648.3 schedule through a “force majeure” clause.¹⁰⁰ This clause allows the PPUC to excuse a utility from their obligations under the AEPS, or to reduce those obligations, if the Commission determines that sufficient alternative energy resources are not “reasonably available [to the utility] in the marketplace in sufficient quantities.”¹⁰¹ This

91. See Ferrey, *supra* note 24, at 161-62.

92. See 73 PA. CONS. STAT. § 1648.3(b)(1), (d) (2010).

93. February 28, 2005, which is 90 days after the AEPS was signed into law on November 30, 2004.

94. See 73 PA. CONS. STAT. § 1648.3(b)(1).

95. *Implementation of the Alternative Energy Portfolio Standards Act*, Pennsylvania Public Utility Commission Docket No. M-00051865, 35 PA. BULL. 2183 (April 9, 2005) (codified in 52 PA. CODE § 75.61).

96. 73 PA. CONS. STAT. § 1648.3(d).

97. *Id.* § 1648.2. This second option is limited, however, to December 31, 2010 at the latest. *Id.* See also *Implementation of the Alternative Energy Portfolio Standards Act*, Pennsylvania Public Utility Commission Docket No. M-00051865, 35 Pa. Bull. 2183 (codified in 52 PA. CODE § 75.67 (2010)).

98. PENNSYLVANIA PUBLIC UTILITY COMMISSION, 2008 AND 2009 ANNUAL REPORTS, *supra* note 79, at 9.

99. 73 PA. CONS. STAT. § 1648.3(d). Additionally any alternative energy credits earned by the excepted utility during the cost-recovery period may be banked and applied under the same rules listed in § 1648.3(e)(7). *Id.*

100. *Id.* § 1648.3(a)(2). See also 52 PA. CODE § 75.69.

101. 73 PA. CONS. STAT. § 1648.2.

decision may rest on whether the utility has made good-faith attempts to procure the necessary alternative energy or AECs.¹⁰²

All nine of Pennsylvania's investor owned distribution utilities are subject to full compliance with the AEPS.¹⁰³ Cooperatives, however, are not bound by the alternative energy requirements in Section 1648.3.¹⁰⁴ Instead, RECs must only provide a voluntary energy efficiency and demand-side management program to be in compliance with the AEPS.¹⁰⁵ Voluntary energy efficiency and demand-side management programs are programs designed to encourage consumers to either use less energy or use energy on "off-peak" times.¹⁰⁶ Both government actors and retail electric distributors routinely encourage consumers to reduce their energy usage by changing personal habits or by using more energy-efficient appliances and machinery in their homes or businesses.¹⁰⁷ Electric distributors are increasingly active in encouraging consumers to voluntarily shift the operation of their appliances and machinery to "off-peak" times.¹⁰⁸ The combined effect of both programs is to reduce the aggregate peak energy demand of consumers in an electric utility's service territory.

B. Pennsylvania Rural Electric Cooperatives

The thirteen Pennsylvania RECs¹⁰⁹ serve approximately 220,000 consumers—which equates to over 600,000 rural residents—in forty-one counties.¹¹⁰ Collectively, these distribution utilities sold over 2,672,000

102. *Id.*

103. After the expiration of any cost-recovery period. See PENNSYLVANIA PUBLIC UTILITY COMMISSION, 2008 AND 2009 ANNUAL REPORTS, *supra* note 79, at 9.

104. 73 PA. CONS. STAT. § 1648.8.

105. *Id.*

106. *Id.* § 1648.2.

107. See, e.g., U.S. Department of Energy, Energy Efficiency, http://www.eere.energy.gov/topics/energy_efficiency.html (last visited Feb. 4, 2011) (government actors); First Energy, Energy Savings Tips, <http://www.firstenergycorp.com/energyefficiency/index.html> (last visited Feb. 4, 2011) (electric distributors).

108. For example, Pennsylvania RECs operate the Coordinated Load Management System, which allows consumers to voluntarily shift the usage of appliances like hot-water heaters to off-peak hours of the day. Pennsylvania Rural Electric Association, Home-Grown Energy for All to Enjoy, <http://www.prea.com/Content/renewables.asp> (last visited Feb. 4, 2011).

109. Adams EC, Bedford REC, Central EC, Claverack REC, New Enterprise REC, Northwestern RECA, REA EC, Somerset REC, Sullivan County REC, Sussex REC, Tri-County REC, United EC, Valley REC and Warren EC.

110. See Pennsylvania Rural Electric Association, About PREA, <http://www.prea.com/Content/history.asp> (last visited Feb. 4, 2011).

MWh of electricity to Pennsylvania consumers in 2009.¹¹¹ These sales represent approximately two percent of all power sold to retail consumers in the Commonwealth.¹¹² Despite the relatively small percentage of the Commonwealth's total energy demand, Cooperatives collectively own and operate approximately twelve and one-half percent of the electric distribution lines within the Commonwealth.¹¹³

The Pennsylvania RECs collectively obtain their power needs from Allegheny Electric Cooperative (“Allegheny EC”), a generation and transmission Cooperative.¹¹⁴ Allegheny EC generates or purchases power and sells it wholesale to the individual RECs, who then sell the power retail to their members.¹¹⁵ Allegheny EC owns and operates the William F. Matson Hydroelectric Plant, a low-impact hydroelectric facility capable of 21.70 Megawatts (“MW”) of alternative energy generation capacity.¹¹⁶ Allegheny EC also owns a 10% share in the LLP Susquehanna Nuclear Power Plant, which provides Cooperatives with an additional 245.50 MW of generation capacity.¹¹⁷ Allegheny EC obtains the remainder of the RECs' power needs by purchasing electricity from other generators, both inside and outside the Commonwealth.¹¹⁸

Under the Electric Cooperative Law of 1990,¹¹⁹ Pennsylvania RECs are not regulated by the PPUC,¹²⁰ but are instead self-regulated by their customer-members.¹²¹ The Commonwealth allows RECs to self-regulate because Cooperatives only provide electric utility services to their members, not to the public at large.¹²² Since Cooperative members are simultaneously the customers and the owners of the REC, the

111. See U.S. Energy Information Administration, Form EIA-861 Database, <http://www.eia.gov/cneaf/electricity/page/eia861.html> (retail sales data available by downloading “File2.xls” under the 2009 “ZIP” hyperlink) (last visited Feb. 4, 2011).

112. See *id.*

113. See Pennsylvania Rural Electric Association, About PREA, *supra* note 110.

114. See *id.*

115. See *id.*

116. See PENNSYLVANIA PUBLIC UTILITY COMMISSION, ELECTRIC POWER OUTLOOK FOR PENNSYLVANIA 2009-2014 91 (2010), available at http://www.puc.state.pa.us/general/publications_reports/pdf/EPO_2010.pdf.

117. See *id.*

118. See Pennsylvania Rural Electric Association, Power Supply, <http://www.prea.com/content/allegheny.asp> (last visited Feb. 4, 2011).

119. 15 PA. CONS. STAT. §§ 7301–7359 (2010).

120. Pa. Elec. Co. v. Morrison, 47 A.2d 810, 812 (Pa. 1946) (“[I]t is plainly evident that the legislature intended to exempt cooperatives . . . from the jurisdiction and control of the Public Utility Commission.”).

121. Adams Elec. Coop. v. Commonwealth, 853 A.2d 1162, 1164 (Pa. Commw. Ct. 2004).

122. *Id.*

Commonwealth relies on the Cooperative boards of directors to regulate their own internal affairs with respect to rate-setting and operation.¹²³

C. Pennsylvania RECs Should be Included in the Minimum Renewable Percentage Requirements of the AEPS

Including Pennsylvania Cooperatives in the minimum alternative energy requirements of Section 1648.3 will further the General Assembly's goals of spurring alternative energy growth, creating jobs, and protecting the environment in the Commonwealth. Despite their relatively small share of the Commonwealth's total energy demand, giving RECs alternative energy goals will increase the overall demand for power generated from renewable sources within the Commonwealth and in the PJM RTO. More importantly, as states like Colorado and New Mexico have recognized, inclusion in Section 1648.3 would encourage Cooperatives to boost the growth of alternative energy generators in and around their rural service territories. By nature of their rural locations, Pennsylvania RECs tend to possess significant transmission and distribution infrastructure in sparsely populated areas throughout the Commonwealth.¹²⁴ These rural service territories are precisely where alternative energy sources like wind, waste coal, biomass, and solar have the greatest potential.¹²⁵ This potential is primarily due to the natural conditions of these rural areas and their sparsely-populated nature. Normally, renewable generation projects are not only limited by resources, but also by access to transmission and distribution lines to carry the power from the generation site to the ultimate consumers.¹²⁶ These limits can be critical in the decision to invest in a new renewable energy project and to take advantage of energy sources in any given area.¹²⁷ Thus, Cooperatives' maintenance of their transmission and distribution infrastructure in these resource-heavy areas further enhances the desirability of including RECs in Section 1648.3.

123. *Id.*

124. *See* Pennsylvania Rural Electric Association, Pennsylvania/New Jersey Territorial Map, *supra* note 6.

125. *See* Energy Information Administration, Pennsylvania State Energy Profile Map, *supra* note 7. *See also* Cox, *supra* note 14, at 264 (noting compatibility of rural farming land with wind turbines).

126. *See* Ferrey, *supra* note 24, at 133.

127. Robert S. Guzek, Comment, *Addressing the Impacts of Large Wind Turbine Projects to Encourage Utilization of Wind Energy Resources*, 27 TEMP. J. SCI. TECH. & ENVTL. L. 123, 124 (2008).

1. Increased Demand for Alternative Energy Generation in the Commonwealth and PJM RTO

Aggregate demand for electrical power in Pennsylvania was approximately 142,161 gigawatt-hours (“GWh”) in 2009, with demand expected to increase at a rate of 1.4 percent annually.¹²⁸ As demand in Pennsylvania increases, so too will the demand for alternative energy sources to supply the Commonwealth’s residents and industries.¹²⁹ Demand-side energy management and energy efficiency programs (that Cooperatives must provide¹³⁰ for interested members) are vital in reducing the overall consumer demand for energy and are therefore included as Tier II resources in the AEPS.¹³¹ Pennsylvania RECs maintain that “the cheapest kilowatt-hour, and cleanest in terms of environmental impact, is the one never generated.”¹³² Indeed, reducing the overall demand for energy is an important element in moving the Commonwealth towards a sustainable energy future. When viewed alone, however, demand-reduction programs do not have the effect of spurring the growth of alternative energy generation in the Commonwealth, which is the driving purpose¹³³ of the AEPS. Further, even with the goal of reducing overall consumer demand, the AEPS only requires RECs to have a voluntary demand-side management program, with no set goals or minimum requirements for energy savings.¹³⁴

Currently, when Cooperatives purchase power from investor-owned electric generators or distributors, they generally have no significant incentive to ensure that part of the electricity they purchase comes from alternative sources unless specifically noted in a supply agreement.¹³⁵ Therefore, for purposes of calculating the percentage of alternative energy sold by the IOU, an REC is effectively the same as any other consumer. So long as the selling IOU presents sufficient AECs to meet

128. PENNSYLVANIA PUBLIC UTILITY COMMISSION, ELECTRIC POWER OUTLOOK FOR PENNSYLVANIA 2009-2014, *supra* note 116, at 20.

129. By 2021, in order to meet projected AEPS requirements, Pennsylvania power generators and distributors will require an estimated 33,765,501 MWh of renewable energy. PENNSYLVANIA PUBLIC UTILITY COMMISSION, 2008 AND 2009 ANNUAL REPORTS, *supra* note 79, at 3.

130. 73 PA. CONS. STAT. § 1648.8 (2010).

131. *Id.* § 1648.2.

132. Pennsylvania Rural Electric Association, Home-Grown Energy for All to Enjoy, *supra* note 108.

133. “It is in the public interest to expand the use of alternative energy and to explore the feasibility of new sources of alternative energy to provide electric generation to this Commonwealth.” Act 129 of 2008, Pub. L. No. 1592-129, § 5, 2008 Pa. Laws 1592 (codified in 66 PA. CONS. STAT. § 2814 (2010)).

134. 73 PA. CONS. STAT. § 1648.8.

135. AECs remain the property of the alternative energy generator until contractually transferred. *See id.* § 1648.3(e)(12).

its annual minimum alternative energy sales, then it matters little which buyers receive power generated from alternative or traditional “dirty” sources.

Adding RECs to Section 1648.3 will increase the overall demand for alternative energy sources for several reasons. If Cooperatives are required to collect AECs to demonstrate compliance with the AEPS, then they must either: (1) purchase alternative energy and the associated AECs from an investor-owned utility; (2) purchase unbundled AECs on the open market; or (3) increase their direct access to alternative energy generators.¹³⁶ Each of these options will increase the demand for alternative energy sources in Pennsylvania and the PJM RTO. Market economics will then push for increased supply of alternative energy to meet this increased demand.¹³⁷

In the first scenario, when purchasing power from the IOU, Cooperatives will likely prefer to purchase an increased amount of power generated from alternative sources in order to acquire the associated AECs along with the alternative energy delivered.¹³⁸ The IOU will then need to obtain additional AECs to offset the loss of the AECs transferred to its Cooperative customer.¹³⁹ The IOU will have to make up for this deficit by purchasing additional AECs elsewhere in the PJM RTO or increasing its own alternative energy generation to meet its Section 1648.3 requirements. As a second option, if the RECs choose to purchase unbundled AECs on the open market, there will be a similar increase in the overall demand for AECs on the market within the PJM RTO. As in the first scenario, the additional demand for AECs will further incentivize the growth of additional sources of alternative energy generation within the PJM RTO.¹⁴⁰

Most importantly, if RECs opt to increase their direct access to new sources of alternative energy generation, those new generation projects will increase renewable energy production right here in the Commonwealth. Cooperatives can accomplish this goal by either increasing their own alternative energy generation¹⁴¹ or by attracting new alternative energy generators into their service territories. These options would most conform to the underlying rationale of the AEPS: spurring

136. 73 PA. CONS. STAT. § 1648.3(e)(4)(ii); 52 PA. CODE § 75.61(a) (2010).

137. See Reiley, *supra* note 88, at 927.

138. Because AECs remain the property of the renewable power generator, any contractual power purchase agreements would need to include a provision for the transfer of AECs in order for the REC to acquire them. See 73 PA. CONS. STAT. § 1648.3(e)(12).

139. Unlike the current system where the investor-owned distributor can keep the AECs and sell power from any mix of alternative or traditional sources.

140. See Reiley, *supra* note 88, at 927.

141. Such as increasing generation from Allegheny EC-owned facilities like the Matson Hydroelectric Plant or investing in the construction of new generation facilities.

renewable energy growth—and corresponding job growth—within the Commonwealth.¹⁴²

2. The Examples Set by Colorado and New Mexico

Both Colorado and New Mexico originally enacted RPSs that applied only to IOUs within their states, but later amended their RPSs to include Cooperatives.¹⁴³ Colorado originally codified its RPS in 2005, which only required IOUs to demonstrate that ten percent of their retail power sales within the state came from renewable sources.¹⁴⁴ In 2007, with bipartisan support,¹⁴⁵ the Colorado General Assembly amended the RPS to double the IOU requirements to twenty percent by 2020.¹⁴⁶ The 2007 amendment also added Cooperatives and larger municipalities to the RPS, requiring these utilities to demonstrate that ten percent of their retail power sales came from renewable sources by 2020.¹⁴⁷ The 2007 amendment created “bonuses” for RECs, whereby each kWh of renewable energy produced by “community-based projects” will count as one and one-half kWh¹⁴⁸ and each kWh generated from solar technology before July 1, 2015 will count as three kWh for compliance tabulation.¹⁴⁹ The amended Colorado RPS protects Cooperative members from spikes in their retail rates by imposing a one percent cap¹⁵⁰ on a Cooperative’s RPS compliance costs for the year. Colorado’s choice to add RECs in 2007 was heralded as a decision that would “advance rural economic

142. See Pennsylvania Legislative Journal-House, Nov. 20, 2004, *supra* note 55.

143. Ch. 60, § 1, 2007 Colo. Sess. Laws 257-64 (codified in COLO. REV. STAT. § 40-2-124 (2010)) (adding Colorado RECs to the existing RPS); 2007 N.M. Laws, Ch. 4, § 1 (codified as amended at N.M. STAT. §§ 62-15-34 to -37 (2007)) (adding New Mexico RECs to the existing RPS).

144. The original RPS, Amendment 37, was enacted by voter initiative in 2004 and later codified by the Colorado General Assembly in 2005. See Ch. 63, § 1, 2005 Colo. Sess. Laws 234-38 (codified in COLO. REV. STAT. § 40-2-124).

145. Colorado Legislative Journal-House, Feb. 26, 2007, at 557 (final vote on passage of the 2007 RPS amendment, H.B. 1281, being 59 in favor and 5 against); Colorado Legislative Journal-Senate, March 16, 2007, at 580 (final vote on passage of the 2007 RPS amendment, H.B. 1281, being 27 in favor and 8 against).

146. Ch. 60, § 1, 2007 Colo. Sess. Laws 257-64 (codified in COLO. REV. STAT. § 40-2-124). In 2010, the requirement on IOUs was again increased to 30% of retail sales. Ch. 37, §§ 1-3, 2010 Colo. Sess. Laws 144-47 (codified as amended at COLO. REV. STAT. § 40-2-124).

147. Ch. 60, § 1, 2007 Colo. Sess. Laws 257-64 (codified as amended at COLO. REV. STAT. § 40-2-124).

148. COLO. REV. STAT. § 40-2-124(1)(c)(VI) (defining what constitutes a “community-based project”).

149. COLO. REV. STAT. § 40-2-124(1)(c)(VII)(A).

150. The retail rate increase is capped at 1% of the cumulative of each member’s total annual electric bill. COLO. REV. STAT. § 40-2-124(1)(g)(IV)(A).

development and benefit urban consumers alike.”¹⁵¹ Colorado lawmakers were also able to support their decision to add RECs with studies showing that the addition “would provide significant economic benefits, particularly to rural Colorado.”¹⁵²

A similar situation took place in New Mexico. The New Mexico Legislature codified the state’s original RPS¹⁵³ in 2004, which required only IOUs to demonstrate that ten percent of their retail power sales in the state came from renewable sources by 2011.¹⁵⁴ In 2007, the New Mexico Legislature increased the requirements on IOUs to twenty percent by 2020, while also creating a separate RPS for Cooperatives.¹⁵⁵ Like Colorado’s RPS, the amended New Mexico RPS protects Cooperative members from significant rate-hikes by imposing a one percent cap¹⁵⁶ on a Cooperative’s RPS compliance costs for the year. Also similar to Colorado, the New Mexico Legislature found that adding Cooperatives to the state’s RPS would “offer[] opportunities for significant in-state economic development, particularly in the State’s outlying *rural areas where renewable energy projects are most likely to be located.*”¹⁵⁷ Additionally, the New Mexico Legislature found that the 2007 amendment “would complement the state’s efforts to increase renewable energy development and advance the implementation of renewable energy and energy efficiency.”¹⁵⁸ Although they are western states, Colorado¹⁵⁹ and New Mexico¹⁶⁰ share many of the same renewable resources Pennsylvania possesses, especially wind and biomass. Pennsylvania should follow the example these two states have set by amending the AEPS to include Cooperatives under Section 1648.3

151. Carl Levesque, *Colorado Enacts 20% RPS; Munis and Co-ops 10%*, Renewable Energy World, April 4, 2007, <http://renewableenergyworld.com/rea/news/article/2007/04/colorado-enacts-20-rps-munis-and-co-ops-10-48003>.

152. *Id.*

153. The original RPS was created by the state’s Public Regulation Commission in 2002 and later codified by the New Mexico Legislature in 2004.

154. 2004 N.M. Laws, Ch. 65, § 4 (codified in N.M. STAT. §§ 62-16-1 to -10 (2007)).

155. 2007 N.M. Laws, Ch. 4, § 1 (codified as amended at N.M. STAT. §§ 62-16-1 to -10, 62-15-34 to -37).

156. The cap is set at 1% of the cooperative’s gross receipts from business transacted in New Mexico for the preceding calendar year. N.M. STAT. § 62-15-34(B).

157. NEW MEXICO LEGISLATIVE FINANCE COMMITTEE, Fiscal Impact Report on S.B. 418, S.B. 418, 1st Sess., at 3 (2007) (emphasis added), available at <http://www.nmlegis.gov/Sessions/07%20Regular/firs/SB0418.pdf>.

158. *Id.*

159. As of 2009, the twenty-six Colorado RECs accounted for approximately twenty-five percent of the power sold in the state. U.S. Energy Information Administration, Form EIA-861 Database, *supra* note 111.

160. As of 2009, the twenty-one New Mexico RECs accounted for approximately twenty-one percent of electricity sold in the state. U.S. Energy Information Administration, Form EIA-861 Database, *supra* note 111.

and further spur the growth of renewable energy in rural parts of the Commonwealth.

3. Alternative Energy Resources in Rural Electric Service Territories

Wind-generated power is a renewable energy source widely recognized as a critical component of a diverse and sustainable state energy portfolio.¹⁶¹ Pennsylvania is no exception, as the Commonwealth is one of the leading east coast states in large-scale windmill farm production.¹⁶² While not on the scale of the wind-swept states of the Great Plains, Pennsylvania still possesses considerable wind energy potential.¹⁶³ The National Renewable Energy Laboratory estimated in 2010 that the Commonwealth had the potential to harness over 3,300 MW of energy, translating to an annual total of over 9,600 GWh of wind-generated energy.¹⁶⁴ This potential is over six and one-half percent of the estimated 144,151 GWh¹⁶⁵ consumed by the Commonwealth in 2010. As of February, 2010, the Commonwealth had wind-generating capacity of 751.6 MW,¹⁶⁶ translating into an annual total of approximately 2,200 GWh of power.¹⁶⁷ This difference in potential and existing generation capacity means that the Commonwealth has significant room for growth in harnessing wind resource potential. Due to the nature of wind-generation, areas that offer high-quality wind¹⁶⁸ are normally rural and sparsely-populated.¹⁶⁹ The primary land-based areas

161. Among the states that have instituted an RPS, more than 90% of the renewable energy additions in the state (and more than 80% of average capacity supplied) have come from wind power. Ferrey, *supra* note 24, at 149. Further, it is estimated that 60 to 90% of new, RPS-driven, renewable energy capacity additions in the U.S. will come from wind powered projects. *Id.* at 149-50.

162. Reiley, *supra* note 88, at 916.

163. National Renewable Energy Laboratory, Pennsylvania Wind Map, http://www.windpoweringamerica.gov/images/windmaps/pa_80m.jpg (last visited Feb. 4, 2011).

164. Calculations based on an 80-meter height above ground level with a maximum of 30% capacity. National Renewable Energy Laboratory, Estimates of Windy Land Area and Wind Energy Potential by State for Areas $\geq 30\%$ Capacity Factor at 80m, http://www.windpoweringamerica.gov/docs/wind_potential_80m_30percent.xls (last visited Feb. 4, 2011).

165. Calculated as the 142,161 GWh in 2009 increased by 1.4% per year. PENNSYLVANIA PUBLIC UTILITY COMMISSION, ELECTRIC POWER OUTLOOK FOR PENNSYLVANIA 2009-2014, *supra* note 116, at 20.

166. PENNSYLVANIA PUBLIC UTILITY COMMISSION, 2008 AND 2009 ANNUAL REPORTS, *supra* note 79, at 37 (Table 9—AEPS Resource Summary).

167. Calculations based on an 80-meter height above ground level with a maximum of 30% capacity.

168. "Class 3" or above (sustained wind speed of 6.9 meters per second or greater at an 80-meter height above ground level).

169. Cox, *supra* note 14, at 264-66.

in the Commonwealth with the greatest potential for high-quality wind generation are in the south of the Commonwealth—between Harrisburg and Pittsburgh—and along the Lake Erie coast.¹⁷⁰ The majority of these wind-rich areas fall within the service territories of six RECs.¹⁷¹ A prime example is Shaffer Mountain in Somerset County, located right in the middle of Somerset REC's service area.¹⁷² The presence of Cooperative infrastructure in these high-wind areas of the Commonwealth makes the service territories of many Cooperatives ripe for new windmill projects.

Power generation using waste coal is particularly relevant to the strategic geographic location of Pennsylvania RECs for several reasons. Unlike normal grades of coal, waste coal is of such a low-energy grade that, to be profitable as a generation source, the coal-burning generation facilities must be relatively close to the waste coal deposits.¹⁷³ Otherwise, the cost of transporting the waste coal from the slag piles to the waste coal-fired generator facility will increasingly outweigh the revenues of selling the resulting power. Waste Coal is already the Commonwealth's primary source of alternative energy, with over ten million MWh generated in 2009.¹⁷⁴ The categorization of waste coal as an "alternative" resource has generated considerable criticism because this method of energy production is still based on burning coal, which is a finite—not renewable—fossil fuel.¹⁷⁵ Notably, however, the removal of waste coal piles within the Commonwealth has its own environmental advantages because such action undoubtedly fosters the removal of eye-sore dumps that can create hazardous runoff and pollute local water supplies.¹⁷⁶ Moreover, including RECs under Section 1648.3 would incentivize nearby coal generators to utilize more waste coal in and around the REC service territories so that they may purchase this alternative energy. This system, in turn, would promote environmental stewardship in the Cooperatives' own back yards.

170. National Renewable Energy Laboratory, Pennsylvania Wind Map, *supra* note 163. See also Sovacool, *supra* note 25, at 86 (stating that wind turbines are "most competitive in areas with stronger and more constant winds, such as locations offshore or in regions of high altitude" like Pennsylvania's southwest).

171. Somerset, REA, Bedford, New Enterprise, Valley, and Adams.

172. Guzek, *supra* note 127, at 125.

173. Samlin, *supra* note 69, at 412.

174. PENNSYLVANIA PUBLIC UTILITY COMMISSION, 2008 AND 2009 ANNUAL REPORTS, *supra* note 79, at 20 (see Graph 2 for MWh generated in 2009).

175. Kopetsky, *supra* note 9, at 963 (criticizing waste coal as "questionably renewable" and stating that it was included in the AEPS primarily as a result of "special interests").

176. Samlin, *supra* note 69, at 411. Additionally, heightened levels of Mercury from waste-coal-burning are of continual concern to environmentalists. *Id.*

Energy generated from biomass sources is highly-touted as both clean¹⁷⁷ and renewable.¹⁷⁸ Biomass energy sources primarily include organic matter from farming or logging and also include “biomass crops” specifically planted and grown for energy production.¹⁷⁹ Biomass sources produce energy when gasified and combusted or when “cofired” with coal or natural gas in generators modified to properly burn biomass.¹⁸⁰ Like waste-coal, when fired at a generator plant, biomass sources yield a lower energy output per-pound than normal, energy-grade coal.¹⁸¹ Therefore, to be economically viable—after accounting for transportation costs—biomass sources must be located reasonably close to a suitable coal-fired plant.¹⁸² The vast rural expanses of the Commonwealth offer rich biomass sources derived from farming.¹⁸³ While almost all the Pennsylvania RECs are located in areas with significant biomass resources, the service territories of five Cooperatives encompass all or part of the areas of the Commonwealth with the heaviest concentration of biomass resources.¹⁸⁴ Including RECs under Section 1648.3 would thus increase the demand for converted coal-fired plants in or near Cooperative service territories. The converted plants would then utilize more of the biomass resources available in the Cooperative service territories.

Aside from increasing the use of renewable resources, utilizing more biomass in cofiring would have a beneficial effect on many of the Cooperative members who are themselves rural farmers. Those members would find increased demand for their agricultural bi-products

177. Plants that use biomass, either gasified or cofired, produce much less pollution than traditional coal-fired plants. Sovacool, *supra* note 25, at 100.

178. *Id.* at 100-01.

179. *Id.* at 87.

180. *Id.*

181. Union of Concerned Scientists, How Biomass Works, http://ucsusa.org/clean_energy/technology_and_impacts/energy_technologies/how-biomass-energy-works.html (last visited Feb. 4, 2011) (“Another important consideration with biomass energy systems is that unprocessed biomass contains less energy per pound than fossil fuels—it has less ‘energy density.’”).

182. When projecting the potential of biomass generation in the Commonwealth ahead of the implementation of the AEPS in 2004, analysts with Black & Veatch limited the distance from biomass resources to suitable coal-burning plants to 75 miles. BLACK & VEATCH, ECONOMIC IMPACT OF RENEWABLE ENERGY IN PENNSYLVANIA D-15 (2004), <http://www.cleanenergystates.org/library/pa/PA%20RPS%20Final%20Report.pdf>. This is also the study relied on by many members of the General Assembly in supporting the passage of the AEPS in 2004. See Pennsylvania Legislative Journal-House, Nov. 20, 2004, *supra* note 56, at 2257.

183. BLACK & VEATCH, *supra* note 182, at D-16 (showing biomass resource distribution across Pennsylvania).

184. Valley REC, Sullivan County REC, Adams EC, United EC and Tri-County REC. Compare *id.*, with Pennsylvania Rural Electric Association, Pennsylvania/New Jersey Territorial Map, *supra* note 6.

for use as biomass resources in cofiring plants. Additionally, farmers who chose to grow “energy crops,” like switchgrass, for sale as biomass would also receive, as a corollary, the added benefits that many biomass crops provide, like stabilizing soil quality, improving soil fertility, and reducing erosion.¹⁸⁵

Pennsylvania does not possess the same fertile ground for solar power resources as the west and southwest of the United States.¹⁸⁶ Therefore, many of the large, utility-scale thermal solar (“CSP”) generation projects seen in the southwestern United States are generally considered impractical and uneconomical in the Commonwealth. Nonetheless, the Commonwealth does have solar potential. This potential lies primarily in smaller-scale solar PV.¹⁸⁷ The General Assembly recognized this potential by creating the specific one-half percent carve-out for solar PV energy in the Tier I requirements of Section 1648.3.¹⁸⁸ Solar PV panels can be distributed among remote, off-grid areas or placed on buildings, homes, “solar trees,”¹⁸⁹ and in other configurations and arrays of varying sizes and quantities.¹⁹⁰ Solar PV panels can also be bundled into larger utility-sized generation farms, which require large, wide-open areas like those available in rural Pennsylvania.¹⁹¹ As of June, 2010, Pennsylvania has registered over sixteen MW of solar PV capacity within the Commonwealth, translating into over 8,543 MWh of power generated in 2009.¹⁹² Unlike CSP generation, solar PV panels can generate energy year-round in a variety of different climates across the Commonwealth.¹⁹³ Solar PV development in rural and urban Pennsylvania also has abundant room for

185. Sovacool, *supra* note 25, at 98 (distinguishing the benefits of biomass crops compared to food crops).

186. See National Renewable Energy Laboratory, United States Concentrating Solar Power Resource: Direct Normal, http://www.nrel.gov/gis/images/map_csp_national_hires.jpg (last visited Feb. 4, 2011).

187. Annual average CSP estimates for Pennsylvania range from approximately 2.37 to 3.68 kWh/m²/day. *Id.* See also BLACK & VEATCH, *supra* note 182, at C-8 (“Pennsylvania’s poor [CSP] resource precludes consideration of solar thermal technologies as practical energy generation option.”).

188. 73 PA. CONS. STAT. § 1648.3(b)(2) (2010).

189. Jane Burgermeister, *Introducing the Solar Tree*, Renewable Energy World, December 21, 2007, <http://renewableenergyworld.com/rea/news/article/2007/12/introducing-the-solar-tree-50934>.

190. Sovacool, *supra* note 25, at 91.

191. See Ferrey, *supra* note 24, at 133 (“[S]olar [PV] power, while ubiquitous, requires a large land or surface area to produce the equivalent amount of power as a large fossil fuel-fired facility.”).

192. PENNSYLVANIA PUBLIC UTILITY COMMISSION, 2008 AND 2009 ANNUAL REPORTS, *supra* note 79, at 19-20 (see Graph 2 for MWh generated in 2009).

193. BLACK & VEATCH, *supra* note 182, at C-6.

growth,¹⁹⁴ limited only by the expense of the technology. Moreover, the rural service territories of Cooperatives, in particular, would provide fertile ground for larger-scale solar PV farms.

Pennsylvania RECs have been active in procuring a portion of their power needs from hydroelectric facilities for several decades.¹⁹⁵ Allegheny EC owns and operates the William F Matson Hydroelectric Project, which supplies just under three percent of the power needs of Pennsylvania RECs.¹⁹⁶ Power generated from this low-impact hydroelectric facility qualifies as Tier I alternative energy under the AEPS.¹⁹⁷ Currently, Allegheny EC procures approximately six percent of Pennsylvania RECs' annual energy needs from large-scale hydroelectric generator projects in upstate New York.¹⁹⁸ These large-scale hydro plants normally would be considered Tier II alternative energy sources;¹⁹⁹ however, because they are not situated within the PJM RTO,²⁰⁰ these renewable sources do not qualify for compliance under the AEPS.²⁰¹ In contrast, rural Pennsylvania, which is extensively carved by rivers, could continue to be fertile ground for the growth of new low-impact hydroelectric facilities in the model of the Matson Project.²⁰²

Finally, reductions in electrical demand from demand-side management and energy efficiency programs by Cooperatives are purely voluntary.²⁰³ Demand-side management programs are considered Tier II alternative energy sources.²⁰⁴ If RECs are required to meet Tier II minimums under Section 1648.3, these Cooperatives would be encouraged to expand their demand-side management programs to earn the associated AECs.

D. Proposed Pennsylvania Regulatory Changes

Potential amendments to the AEPS to require Pennsylvania Cooperative compliance with Section 1648.3 should seek to balance the

194. *Id.* at D-26 (“[T]echnical potential for solar [PV] generation is far greater than the realistic near-term potential for utilization.”).

195. Pennsylvania Rural Electric Association, Home-Grown Energy for All to Enjoy, *supra* note 108.

196. *Id.*

197. 73 PA. CONS. STAT. § 1648.2 (2010).

198. The Niagara and St. Lawrence Power Projects. Pennsylvania Rural Electric Association, Home-Grown Energy for All to Enjoy, *supra* note 108.

199. 73 PA. CONS. STAT. § 1648.2.

200. *See* PJM Territory Served, *supra* note 72.

201. 73 PA. CONS. STAT. § 1648.4; Pa. Power Co. v Pub. Util Comm’n., 932 A.2d 300, 308 (Pa. Commw. Ct. 2007).

202. BLACK & VEATCH, *supra* note 182, at D-22 to -23.

203. 73 PA. CONS. STAT. § 1648.8.

204. *Id.* § 1648.2.

AEPS's goal of incentivizing renewable energy growth with the nature of RECs as non-profit, consumer-owned utilities. Unlike IOUs, RECs do not have the ability to accrue and invest the yearly profits of their energy sales²⁰⁵ and are thus less likely to have large amounts of capital on-hand to immediately invest in new utility-scale renewable energy ventures.²⁰⁶ The General Assembly should not expect Cooperatives to be capable of immediate compliance with Section 1648.3 on the same level as IOUs. Instead, the General Assembly should adopt an implementation scheme similar to those of other states which hold RECs to lower renewable energy requirements or allow longer implementation timetables.²⁰⁷

Such a change could be achieved in many ways. For instance, New Mexico codified a new, separate, Cooperative RPS—including a new compliance schedule, applicable definitions, renewable energy credit creation, and commission duties—within the section of the New Mexico Code governing electric Cooperative incorporation.²⁰⁸ In contrast, Colorado added the separate REC compliance schedule directly into the existing RPS,²⁰⁹ relying on the existing framework of the statute for definitions, renewable credit creation, and commission powers.²¹⁰ North Carolina—which included RECs in the state RPS from the very start—codified a separate Cooperative compliance schedule²¹¹ under the same chapter as the requirements governing IOUs and municipal systems.²¹²

Perhaps the most straightforward amendment method would be to follow the lead of Colorado. The General Assembly could amend the definition of utilities covered by the AEPS²¹³ to include Cooperatives, then set up a separate compliance schedule for RECs. This method, unlike that used by New Mexico, would allow the General Assembly to use the existing framework of the AEPS, while only necessitating a new REC compliance schedule. A separate REC compliance schedule could run parallel to the existing fifteen-year, eighteen percent IOU schedule,

205. 15 PA. CONS. STAT. § 7330 (2010). *See also* A & N Electric Cooperative, Restated Bylaws, *supra* note 40.

206. In fact, many Cooperatives rely on low-interest RUS loans just to cover the expenses of normal system maintenance and required system upgrades. *See* United States Department of Agriculture, Program and Customer Service, *supra* note 43.

207. *See* National Conference of State Legislatures, *supra* note 10 (Colorado: 30% for IOUs and 10% for Cooperatives by 2020; New Mexico: 20% for IOUs and 10% for Cooperatives by 2020; North Carolina: 12.5% for IOUs by 2021 and 10% for Cooperatives by 2018).

208. N.M. STAT. §§ 62-15-34 to -37 (2007).

209. COLO. REV. STAT. § 40-2-124(1)(c)(V)-(1)(c)(VII) (2010).

210. *Id.* § 40-2-124.

211. N.C. GEN. STAT. § 62-133.8(c) (2008).

212. *Id.* § 62-133.8.

213. 73 PA. CONS. STAT. § 1648.2 (2010) (defining covered utilities to include only “electric distribution companies” and “electric generation suppliers”).

and commence on the date of the amendment's enactment.²¹⁴ This plan would require Cooperatives to meet the same renewable percentage in fifteen years, without expecting RECs to immediately catch up with the current percentages required of the large IOUs.²¹⁵ Amending the AEPS to implement this plan would require overcoming PPUC jurisdictional issues and ensuring that RECs are afforded the same general aides that have been granted to the IOUs in transitioning into compliance with Section 1648.3.

1. Expanded Pennsylvania Public Utility Commission Jurisdiction over Electric Cooperatives

Because the PPUC enforces the AEPS, any amendments to the AEPS to bring RECs under Section 1648.3 would require extending the Commission's jurisdiction over Cooperatives.²¹⁶ Presently, Cooperatives are exempt from PPUC regulation, except in several specifically enumerated circumstances.²¹⁷ While these exceptions show that RECs are not completely exempt from PPUC regulation, attempts by the General Assembly to categorize RECs as public utilities—which could override REC exemptions in certain circumstances—have been met with some difficulty.²¹⁸

In *Adams Electric Cooperative v. Commonwealth*, the Commonwealth attempted to categorize RECs as “public utilities” subject to taxation under the Public Utility Realty Tax Act (“PURTA”).²¹⁹ The provision of PURTA subjecting “any electric cooperative corporation *furnishing public utility service*”²²⁰ to local real estate taxation directly contradicted the tax-exempt status granted to

214. For example, if the AEPS was amended in 2011 to include RECs as recommended, the end-year for compliance with the combined 18% Tier I and Tier II minimum would be Jan. 1, 2027. On Jan. 1, 2021, when Pennsylvania investor-owned utilities would have to meet the full 18%, RECs would only have to meet 4.5% Tier I and 6.2% Tier II (assuming the 2-year delay in compliance).

215. As of Jan. 1, 2011, IOUs are held to 3% Tier I, 6.2% Tier II, and 0.0203% Solar PV. 73 PA. CONS. STAT. § 1648.3.

216. *Id.* § 1648.7(a).

217. 15 PA. CONS. STAT. § 7334 (2010). With certain specific exceptions, including issues falling under Subchapter C, Unincorporated Area Certified Territory, *id.* §§ 7351-7359, and Customer Generation Choice, *id.* §§ 7408-7410.

218. *See, e.g.*, Pa. Elec. Co. v. Morrison, 47 A.2d 810, 812 (Pa. 1946); Adams Elec. Coop. v. Commonwealth, 853 A.2d 1162 (Pa. Commw. Ct. 2004); Amy A. Whitney, *Adams Electric Cooperative, Inc. v. Commonwealth: Commonwealth Court Generally Excludes Electric Cooperatives from PURTA Tax Liability*, 15 WIDENER L.J. 461 (2006).

219. *Adams Elec. Coop.*, 853 A.2d at 1166.

220. 72 PA. CONS. STAT. § 8101-A(2) (2010) (emphasis added).

RECs in the Electric Cooperative Law of 1990.²²¹ In holding that PURTA did not overrule the general tax-exempt status of RECs, the Commonwealth Court reiterated that Cooperatives “are not public utilities for the purposes of the Public Utility Law.”²²² While *Adams* was decided on the limited interpretation of “furnishing public utility service,” the Court nonetheless recognized that the General Assembly could override REC exemptions in the Electric Cooperative Law of 1990 where the language in the relevant statute—and the legislative intent behind it—is clear and unambiguous.²²³

In amending the AEPS to extend Commission jurisdiction over RECs, the General Assembly should clearly demonstrate that their purpose in overriding the blanket exemptions given to RECs is limited only to overseeing compliance with the AEPS. The General Assembly could also ensure that there is no ambiguity by amending Section 7334 of the Electric Cooperative Law of 1990.²²⁴ This section could be amended to add that Cooperatives are exempt from PPUC jurisdiction “except as provided in Title 73, Chapter 18F (relating to alternative energy requirements).”

2. Substantive Changes to Section 1648.3

Amendments to the existing AEPS statute to bring Cooperatives into compliance with Section 1648.3 would first involve repealing the language of Section 1648.8.²²⁵ Section 1648.8 is the only section of the AEPS which specifically references RECs.²²⁶ The remaining language of the AEPS and its associated regulations detail the requirements imposed on “electric distribution companies” and “electric generation suppliers.”²²⁷ The AEPS applies the same definition of electric distribution company and electric generation supplier as Chapter 28 of the Public Utility Code.²²⁸ Although Cooperatives both supply and

221. 15 PA. CONS. STAT. § 7333 (“Electric cooperative corporations . . . shall be exempt from all other state taxes of whatsoever kind or nature.”); *Adams Elec. Coop.*, 853 A.2d at 1165-66.

222. *Adams Elec. Coop.*, 853 A.2d at 1168 (citing *Morrison*, 47 A.2d at 812).

223. *Id.* at 1169 (“The Court concludes that Petitioners’ interpretation is correct. . . . [I]f the legislature intended PURTA to apply to all electric cooperatives, it need only have included ‘electric cooperatives’ in the definition of ‘public utility’ without further modifying language.”).

224. 15 PA. CONS. STAT. § 7334.

225. 73 PA. CONS. STAT. § 1648.8 (2010).

226. *Id.*

227. *Id.* §§ 1648.1–1648.7.

228. *Id.* § 1648.2 (noting that, for both Electric Distribution Company and Electric Generation Supplier, “[t]he term shall have the same meaning given to it in 66 Pa.C.S. Ch. 28”). “Electric distribution company” is defined as a “public utility providing facilities for the jurisdictional transmission and distribution of electricity to retail

distribute electrical power—which would meet the existing definitions of “electric distribution company” and “electric generation supplier”—an amendment to the AEPS would need to include a specific reference to Cooperatives in the definitions of electric distribution companies and electric generation suppliers. Otherwise an amendment extending Commission jurisdiction over RECs could ultimately introduce the same ambiguity that created problems in *Adams*.²²⁹

Under this framework, a gradually-increasing REC compliance schedule for Tier I, Tier II, and the solar PV carve-out would be a separate addition to the respective sections of the statute, so as not to interfere with the existing schedule for IOUs.²³⁰ This new REC compliance schedule should begin within ninety days of the enactment date and should include a two-year delay until the compliance is verified.²³¹ In turn, this delay will give Cooperatives the same exemption enjoyed by IOUs to ease the transition into compliance with the minimum alternative energy requirements. Additionally, including RECs in the existing definitions of “electric distribution company” and “electric generation supplier” will automatically include RECs in the other compliance exemptions enjoyed by IOUs, including the cost-recovery timetable,²³² and the PPUC’s “force majeure” option.²³³

Likewise, under this structure, the General Assembly will also be free to address concerns regarding any potential Cooperative rate increases due to the cost of compliance with Section 1648.3. Although the cost recovery period already allowed under the AEPS²³⁴ should assuage some of these fears, the General Assembly could also go further in specifically protecting REC ratepayers. Compliance cost caps – like those used in Colorado, New Mexico and North Carolina—limiting the rate increase imposed on Cooperative members for the cost of RPS compliance, would also be a viable alternative in the Commonwealth.

customers,” and “Electric generation supplier” is defined as “[a] person, corporation that sells to end-use customers electricity or related services utilizing the jurisdictional transmission or distribution facilities of an electric distribution company or that purchases, brokers, arranges or markets electricity or related services for sale to end-use customers utilizing the jurisdictional transmission and distribution facilities of an electric distribution company.” 66 PA. CONS. STAT. § 2803 (2010).

229. See *Adams Elec. Coop. v. Commonwealth*, 853 A.2d 1162, 1169 (Pa. Commw. Ct. 2004).

230. 73 PA. CONS. STAT. § 1648.3(b)(1) (stating the energy requirements from Tier I sources); *id.* § 1648.3(c) (stating the energy requirements from Tier II sources); *id.* § 1648.3(b)(2) (stating the energy requirements from Solar PV sources).

231. See Pennsylvania Public Utility Commission Docket No. M-00051865, *supra* note 95.

232. 73 PA. CONS. STAT. § 1648.3(d).

233. *Id.* § 1648.3(a)(2); 52 PA. CODE § 75.69 (2010).

234. 73 PA. CONS. STAT. § 1648.3(a)(3).

On this, Colorado and New Mexico employ across-the-board one percent caps,²³⁵ while North Carolina uses per-consumer dollar limits for Cooperatives.²³⁶ Upon reaching the cap, Cooperatives are regarded as having met their RPS requirements for the year.²³⁷ If implemented, either method will require the addition of such a provision into Section 1648.3, preferably under the General Compliance and Cost Recovery section.²³⁸ Such an addition, however, will ultimately recognize RECs as unique customer-owned entities, distinct from IOUs, while—at the same time—still imposing reasonable obligations on Cooperatives to contribute to the growth of alternative energy generation within the Commonwealth.

IV. CONCLUSION

The AEPS is an important step forward in spurring renewable energy growth in Pennsylvania, which will hopefully lead to a sustainable energy future for the Commonwealth. This future goal will require a combined effort on behalf of the Commonwealth's citizens and utilities. Presently, Pennsylvania Cooperatives are in a unique position to be significant players in the march towards achieving that goal, due to their crucial locations in rural Pennsylvania. Exempting RECs from participation in the key renewable energy-creating provisions of the AEPS fails to recognize how Cooperatives can be leaders in helping Pennsylvania reach a sustainable energy future. The time has now come for Pennsylvania to join states like Colorado, New Mexico, and North Carolina in requiring meaningful REC contributions to their Renewable Portfolio Standards.

235. COLO. REV. STAT. § 40-2-124(1)(g)(IV)(A) (2010); N.M. STAT. § 62-15-34(B) (2007).

236. N.C. GEN. STAT. § 62-133.8(h)(3) (2008).

237. *Id.*; COLO. REV. STAT. § 40-2-124(1)(g)(IV)(A); N.M. STAT. § 62-15-34(B).

238. 73 PA. CONS. STAT. § 1648.3(a)(3).