# CONGRESS GOT IT RIGHT: THERE'S NO NEED TO MANDATE RENEWABLE PORTFOLIO STANDARDS

*Mary Ann Ralls*[*]

## I. INTRODUCTION

On August 8, 2005, President Bush signed into law the most sweeping energy bill since the 1992 Energy Policy Act.[1] Weighing in at a hefty 1,724 pages, the Energy Policy Act of 2005 (EPAct 2005 or the Act)[2] includes provisions on numerous subjects including energy efficiency, hydrogen, climate control, oil and gas, and renewable energy. The final product was over 10 years in the making; during its extended gestation, EPAct 2005 was the source of many legislative battles. Due to the span of time over which Congress considered an energy bill, and procedural maneuvers employed to ensure the enactment of EPAct 2005, the Conference Managers' Report accompanying H.R. 6 (the bill that would become EPAct 2005) was almost, if not wholly, unprecedented in its brevity.[3] It does not explain why some measures were successful whereas others, such as a federally mandated Renewable Portfolio Standard[4] (RPS), failed to make it into the law.

But was a mandate necessary to foster the purposes underlying the numerous attempts to enact a RPS, and to spur on the growth of renewable energy markets? When the sum of other federal, state, regional, local, and utility-specific activities in the renewable arena is calculated, the answer is no. Activities on a number of fronts supplant the need for a federal RPS. Moreover, the flexibility inherent in many such programs, as well as in the consideration procedures established under the Electricity Title XII of EPAct 2005,[5] mean that these programs and procedures are much more likely to realize the benefits from renewables while providing consumers with reliable, cost-effective energy.

At the end of the day (at least for now), congressional efforts were unsuccessful, but programs in furtherance of their objectives are already in place. The purpose of this article is to provide a discussion about how such programs more effectively support renewable energy than would a federal RPS. Section II

---

[*] The author joined the National Rural Electric Cooperative Association (NRECA) as Senior Regulatory Counsel in April 2005. She is handling, among other things, state regulatory matters including retail restructuring, state renewable portfolio standards, and territorial integrity issues. Prior to joining NRECA, she was in private practice in Washington, D.C. The author is grateful to Tessema Tefferi, Jay Morrison, and Susan Pettit of NRECA for their valuable assistance with this article. Any flashes of brilliance are due entirely to them, while any errors are due entirely to the author. The views expressed in this article are those of the author and not necessarily representative of the National Rural Electric Cooperative Association.

1. Energy Policy Act of 1992, 42 U.S.C. § 13201 (2000).

2. Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594.

3. *See* H.R. REP. NO. 109-90 (2005) (Conf. Rep.).

4. RPS is a term generally used to describe a program that requires electric utilities to generate or purchase a percentage of their electricity from renewable sources by a particular date. There is no uniform RPS model: they vary in percentages, compliance timeframes, and eligible fuel sources. *See* discussion *infra* Parts II, III.

5. Energy Policy Act of 2005 §§ 1201-98.

addresses the exclusion of a RPS from EPAct '05, highlighting legislative debates that preceded the enactment of EPAct '05. Section III discusses activities at the federal, state, local, and individual utility levels that supplant the need for a federal RPS. Lastly, Section IV proposes that renewable programs that are flexible in their design, implementation, and consideration, maximize the benefits of renewables in a cost-effective and reliable manner.

## II. THE ENERGY POLICY ACT OF 2005 DOES NOT INCLUDE A FEDERALLY-MANDATED RENEWABLE PORTFOLIO STANDARD

Over the past ten years, Congress has grappled with comprehensive energy legislation.[6] The stated purpose of the final bill, EPAct 2005, was "[t]o ensure jobs for our future with secure, affordable, and reliable energy."[7] The Administration strongly supported H.R. 6, saying that it would "benefit consumers by increasing energy supplies while protecting the environment . . . . [It would] reduce our dependence on foreign sources of oil by increasing the use and diversity of renewable energy sources."[8] The Administration noted that the Electricity Title would promote its objectives of improved reliability and increasing supply.[9] But the Administration opposed any effort to set a national RPS, as "these standards are best left to the States. A national RPS could raise consumer costs, especially in areas where these resources are less abundant and harder to cultivate or distribute."[10]

RPS proponents had attempted to include a federal mandate in earlier versions of energy legislation.[11] A RPS, it was argued, would promote energy efficiency and conservation,[12] would enhance our efforts to become less dependent on foreign oil,[13] and would provide consumers with affordable and reliable electricity.[14] These purposes certainly appeared to dovetail with the brief statement of purposes for EPAct 2005. But for all of that, a federally mandated RPS was extremely controversial, as evidenced by the debates that occurred on the Senate floor regarding an amendment to H.R. 6. (S. Amdt. 791).

---

6. *See, e.g.*, H.R. 3782, 104th Cong. (1996). The bill included an effort to require utilities certified under voluntary state competition certification programs to generate or purchase from renewable sources. *Id.* § 153.

7. Energy Policy Act of 2005. EPAct 2005 addresses a wide range of renewable energy, energy efficiency, and renewable fuels issues, and in many places, incorporates past legislative and administrative policies. *See, e.g.*, Energy Policy Act of 2005 § 782(c)(1)(A) (incorporating, among other policies, goals set out in Exec. Order No. 13,149, 65 Fed. Reg. 24,607 (April 21, 2000), which set out vehicle fuel consumption goals for Federal agencies). This article does not purport to provide comprehensive treatment of EPAct 2005 renewable provisions.

8. OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, STATEMENT OF ADMINISTRATION POLICY, H.R. 6. - ENERGY POLICY ACT OF 2005 (2005) [hereinafter BUSH ADMINISTRATION STATEMENT].

9. *Id.*

10. BUSH ADMINISTRATION STATEMENT, *supra* note 8, at 1.

11. From July 1996 to August 2005, some twenty-five or more bills were introduced containing some form of renewable standard.

12. *See* H.R. 3037, 107th Cong. (2001). *See also* S. 1369, 106th Cong. (1999); S. 687, 105th Cong. (1997).

13. *See* S. 1766, 107th Cong. (2001). *See also* H.R. 2828, 109th Cong. (2005).

14. *See* H.R. 2050, 106th Cong. (1999). *See also* H.R. 3037 107th Cong. (2001); S. 1369 105th Cong. (1999); S. 687 105th Cong. (1997).

S. Amdt. 791 was the final attempt to include a RPS; the Senate vote in favor of S. Amdt. 791 was close, 52-48.[15] Ultimately, however, the RPS was not included in EPAct '05, mainly due to strong opposition in the House.

In S. Amdt. 791, Sen. Bingaman (D-NM), Ranking Minority Member of the Senate Energy and Natural Resources Committee and long-time advocate of the RPS, proposed a scaled federal RPS of up to 10% by 2020 through 2030.[16] Overall, supporters contended that it would provide many benefits, including: reduced dependence on foreign energy sources, a reduction in the price of natural gas, new jobs, reduced greenhouse gas emissions, and enhanced reliability of the electricity grid.[17] Opponents countered that a national RPS would amount to a rate increase; in essence it would subsidize certain segments of the energy industry that already benefited from significant federal subsidies with little capacity to show for it; and it *de facto* amounted to an unfunded federal mandate.[18]

Eligible versus ineligible renewable resources presented a significant stumbling block in the debates. Proponents of S. Amdt. 791 argued that it was technology neutral and that while not all regions/states have abundant wind, geothermal, or solar resources, biomass and bio-fuels are common across the country and are included in the list of eligible existing and new renewable energies.[19] Opponents considered the scope so inflexible that even if an electric utility were to meet the renewable requirement of 10% by generation of power through another form of renewable power or even "green power" such as nuclear energy,[20] that utility would still be obligated to generate power or buy renewable credits to cover an additional 10% to satisfy the federal standard.[21] S. Amdt. 791 provided for a State Renewable Energy Account Program (SREAP),[22] under which the Department of Energy (DOE) would collect money from the sale of

15. U.S. Senate Roll Call Votes, S., 109th Cong., (2005), *available at* http://www.senate.gov/legislative/LIS/roll_call_lists/roll_call_vote_cfm.cfm?congress=109&session=1&vote=00141 (last visited Aug. 28, 2006).

16. *See* S. Amendment 791, 109th Cong. (2005).

17. *See* 151 CONG. REC. 80, 6673-90 (2005) (debate on federally-mandated RPS under S. Amendment 791). Opponents of S. Amendment 791 referred to global warming as an impetus behind the Amendment. *See, e.g.*, *id.* at 6676 (statements of Sen. Alexander). However, global warming (or climate change) is not expressly given as a purpose for having a federal RPS, nor is it treated directly in the debates.

18. 151 CONG. REC. 80, at 6676-77.

19. *See id.* at 6675 (referring to S. Amendment 791 § 271).

20. *See* discussion *infra* Part III.B. Some state RPSs include nuclear and forms of waste coal as eligible sources. These are not, strictly speaking, renewables. But they are considered forms of "green" power, which is power produced from sources or in ways that do not degrade the environment. *See, e.g.*, Environment Canada, http://www.ec.gc.ca/international/refs/gloss_e.htm; PPL Corp., http://www1.pplweb.com/Media Relations/mr1/mr_glossary.show_term?p_id=91&p_from_multiple=TRUE (last visited Aug. 28, 2006).

21. 151 CONG. REC. 80, at 6678. Sen. Alexander (R-TN) recited numerous fuels that qualified under state or regional programs, but which were excluded from the proposed amendment. *See also id.* at 6677. Maine includes pulp, paper waste, and black liquor. In addition, Pennsylvania includes waste coal, Connecticut includes fuel cells, and the Western Governors Association's includes clean coal. Sen. Nelson (D-FL) noted that municipal waste, which constitutes 50% of available renewables in Florida, was not included as an eligible resource. 151 CONG. REC. 80, at 6681.

22. *See* 151 CONG. REC. 80, 6768 (2005).

renewable energy credits (RECs)[23] and civil penalties assessed against utilities that fail to obtain the base amount of electricity from renewable sources.[24] The proceeds would be transferred to the states, giving preferences to states that have a disproportionately small amount of renewable capacity and to states to improve renewable energy technologies.[25] Despite careful language in S. Amdt. 791 that states RPS programs would be undiminished, opponents maintained that the practical effect was that states would have to replace their existing programs with the federal proposal,[26] or else pay what amounted to a new tax and a new rate increase into the SREAP.[27] Moreover, they pointed out that fuel choices and resource development decisions historically have been within the purview of the states.[28]

Lawmakers were also divided on whether the outcome of the mandate, under S. Amdt. 791, would be cost-effective and support reliable delivery of electricity. Supporters argued that the cost to customers of the mandated RPS would be negligible, and projected significant savings. Citing data from the Energy Information Administration within the Department of Energy (EIA), they asserted that the amendment would result in over "68,000 megawatts of renewable generation between 2008 and 2025 . . . . [t]he cost to consumers would be about .18 of a percent . . . increase in overall energy prices."[29] Additionally, over the life of the RPS program (2005 to 2025), EIA statistics projected cumulative residential cost savings of $2.5 billion and $2.9 billion for electricity and natural gas, respectively, and cumulative savings for all end-use sectors of $22.6 billion.[30]

Opponents of S. Amdt. 791 vehemently disagreed about the cost savings. They too cited the EIA Letter and calculations, which projected that from 2005 to 2025 the RPS would have "[A] cumulative total cost of the electric power

---

23. RECs or green tags represent the environmental or non-energy attribute of renewable resources. *See* discussion *infra* Part IV.E.1. *See also* Electric Util. Regulation Comm., *Report of the Elec. Util. Regulation Comm.*, 19 ENERGY L.J. 465, 496-99 (1998); James W. Moeller, *Of Credits and Quotas: Fed. Tax Incentives For Renewable Res., State Renewable Portfolio Standards, and the Evolution of Proposals For a Fed. Renewable Portfolio Standard*, 51 FORDHAM ENVTL. L. REV. 69 (2004) (discussing RECs).

24. *See* 151 CONG. REC. 80, at 6768. *See also* 151 CONG. REC. 80, at 6674 (statement of Sen. Bingaman).

25. *See* 151 CONG. REC. 80, at 6768.

26. *Id.* at 6681.

27. *See* 151 CONG. REC. 80, at 6677 (statements of Sen. Alexander). *See also* 151 CONG. REC. 80, at 6680 (statements of Sen. Domenici).

28. *See id.* at 6681 (statements of Sen. Domenici (R. NM), Chairman of the Senate Energy and Natural Resources Committee, stating that "States have historically had control over the fuel choices and resource development decisions. Past federal endeavors to meddle in fuel choice mandates have resulted in disasters.").

29. *See* 151 CONG. REC. 80, at 6673 (statements of Sen. Bingaman).

30. *See id.* (citing Letter from EIA, to Jeff Bingaman, Sen. N.M. (June 15, 2005) [hereinafter EIA Letter]). *See also* Memorandum from Fred Sissine, Specialist in Energy Policy Res., Sci., and Indus. Div., Cong. Research Serv. 2 n.7 (July 14, 2005) (Cong. Research Serv. (CRS) Report entitled *Renewable Energy Portfolio Standard for Elec. Prod.*) (citing EIA Letter, *supra* note 30, quantifying these same savings as .02% reduction in electricity costs and .05% reduction in natural gas costs). Senator Clinton (D-NY) asserted that "the administration's analysis . . . shows if we passed this national 10-percent renewable portfolio standard with a 2020 deadline on it, we would save residential customers over $5 billion, we would lower natural gas prices by 6.8 percent, and that would have enormous benefits for our chemical, pharmaceutical, and other industries that rely on natural gas." 151 CONG. REC. 80, 6679 (2005).

sector [of] about $18 billion . . . ."[31] As for the savings to end-users, those numbers were predicated upon the assumption that the price for natural gas would decrease in response to an increased renewable market. S. Amdt. 791 was essentially asking ratepayers to assume an additional $18 billion in costs in the hopes of natural gas prices going down.[32]

In regard to reliability, S. Amdt. 791 opponents noted that wind power, one of the main renewables, would make an insignificant contribution to the overall power requirements and, thus, to the goal of providing low-cost reliable power.[33] They noted that logistically, wind farms are sited where the wind is, in remote areas oftentimes at the top of a ridge, where there is little if any existing transmission sufficient to transmit the power.[34] Furthermore, wind power necessitates that back-up coal, natural gas, or nuclear power always be available to avoid interruption to electric services.[35]

Proponents of S. Amdt. 791 argued that the non-federal piecemeal approach would not support the renewables market. They contended that the current approach to RPS is haphazard in that each state adopts its own and a strong national standard would enable the industry to focus on meeting one standard.[36] But would a federal RPS really result in a strong national renewable market? States, opponents asserted, were much better positioned to determine appropriate fuels, associated costs, consumer protections, and requirements to meet environmental regulations, all of which could be achieved without a highly intrusive mandate from the Federal Government into areas that typically are left

---

31. 151 CONG. REC. 80, at 6687 (comments of Sen. Alexander). Sen. Alexander further stated that the cumulative total cost includes "$700 million in payments to the Government for compliance credits once the price cap is reached and $10.7 billion in payments to owners of customer-sited photovoltaics that are eligible for triple credits." *Id.*

32. *See* 151 CONG. REC. 80, at 6687. But does the energy have to be produced from renewable sources in order to realize savings in natural gas prices? Dr. Ryan Wiser, Lawrence Berkeley National Laboratory (LBL), Berkeley, CA, testified in March 2005 that a recent LBL study demonstrates that reduction in demand for natural gas can be a result of increased renewable energy and energy efficiency, and can result in significant aggregate consumer savings from reduced gas prices. *See Ways to Encourage the Diversification of Power Generation Res.: Hearing Before the S. Comm. On Energy and Nat. Res.*, 109th Cong. 12-17 (2005) (statement of Dr. Ryan Wiser, Scientist, Lawrence Berkeley National Laboratory) [hereinafter Wiser Statement]. Nonetheless, Dr. Wiser then acknowledged that "[s]imilar . . . gas price reductions would . . . result from increased use of [any] energy source[] that displace[s] natural gas consumption[, which would include coal and nuclear power as well]." *Id.* at 13. Additionally, energy efficiency can have a significant impact on natural gas prices, and therefore, should be included when assessing whether or not renewable energy results in decreases natural gas prices. A 2005 report by the Alliance to Save Energy and the American Counsel for an Energy-Efficient Economy (ACEEE) states that a significant national efficiency effort could reduce natural gas consumption by 1 % and gas prices by 37% during 1 year. *See* Memorandum from Fred Sissine, Specialist in Energy Policy Res., Sci., and Indus. Div., Cong. Research Serv. (updated March 27, 2006) (CRS Issue Brief entitled *Energy Efficiency: Budget, Oil Conservation, and Elec. Conservation Issues*).

33. *See* 151 CONG. REC. 80, at 6676 (Sen. Alexander commented that if the goal was to provide low-cost reliable power, putting up a "windmill that only blows 20 or 30 . . . percent of the time . . . doesn't matter much in terms of what we do."). Sen. Alexander also noted that the majority of the renewable electricity production tax credit of 1.8 cents for every kilowatt hour produced had to date gone to wind facilities and that under the Tax Code the associated costs for this subsidy were about $2 billion from 2005 to 2010. Nonetheless, Alexander concluded that "where it doesn't blow, no amount of subsidy will help it." *Id.* at 6677.

34. *See* 151 CONG. REC. 80, at 6677.

35. *Id.*

36. 151 CONG. REC. 80, at 6685 (statements of Sen. Salazar (D-CO)).

to the states.[37] Moreover, the economic reality of a national RPS militates against a "one-size-fits-all" approach. Utilities located in states without sufficient eligible renewables would have to purchase credits or be penalized monies that would go via the SREAP into the coffers of the states with substantial renewable resources and technologies.[38]

## III. ACTIVITIES ON A NUMBER OF FRONTS SUPPLANT THE NEED FOR A FEDERAL RPS

EPAct 2005 does contain regulatory and financial measures intended to support the renewable industry. Likewise, state, local, utility, and even regional efforts to encourage renewable energy have increased exponentially, as discussed *infra* at Part III.B. Taken together, these activities are comprehensive in nature and sufficient in size and scope, such that a federal RPS is not necessary to support the renewable market.

### *A. Fuel Diversity Under Title I of PURPA*

EPAct 2005 amends Title I of the Public Utility Regulatory Policies Act of 1978 (PURPA)[39] to require state regulatory authorities, on behalf of their rate-regulated electric utilities, and all non-regulated utilities with annual retail sales over a certain level, to consider implementing fuel diversity plans as well as other standards that are ancillary to renewable generation such as Distributed Generation (DG) Interconnection.[40] Under the fuel diversity provision, state regulators for those utilities whose rates they regulate and each non-rate regulated electric utility (including cooperatives and public power utilities) that has a minimum of 500 million kilowatt hours in retail sales annually must consider whether or not to adopt a standard whereby an electric utility would "develop a plan to minimize dependence on 1 fuel source and to ensure that the electric energy it sells to consumers is generated using a diverse range of fuels and technologies, including renewable technologies."[41] Regulators and affected utilities must commence this consideration process by August 8, 2007, and make their determinations by August 8, 2008.[42]

Congress also amended Title I of PURPA to include a standard to be considered along with fuel diversity: utility DG Interconnection service to electric consumers who have on-site generation. Under this provision, state

37. 151 CONG. REC. 80, 6673-87 (2005).

38. As Sen. Talent (R-MO) observed: "This is just a wealth transfer from States with little renewable resources to those with a lot. . . . At 1.5 cents per kilowatt-hour [credit price], this could cost Missouri consumers as much as $71 million a year." *Id.* at 6689. Sen. Nelson (D-FLA) summed it up: "An RPS standard cannot be rigid, it must be flexible." 151 CONG. REC. 80, at 6687. *See also The Energy Policy Act of 2005: Hearing Before the Subcomm. On Energy and Air Quality of the H. Comm. On Energy and Commerce*, 109th Cong. 130 (2005) (statement of Thomas R. Kuhn, President, the Edison Electric Institute).

39. Public Utility Regulatory Policies Act of 1978, 16 U.S.C. §§ 2611-45 (2000).

40. Energy Policy Act of 2005, Pub. L. No. 109-58, § 1251, 119 Stat. 594. Fuel diversity and DG Interconnection are two of the five new standards to be considered under Title I of PURPA. The others are net metering, time-of-use rates and smart metering, and fossil fuel generation efficiency. *Id. See also* Energy Policy Act of 2005 §§ 1252, 1254.

41. *Id.* § 1251(a).

42. Energy Policy Act of 2005 § 1251(b).

regulators and electric utilities that triggered the same annual retail sales threshold are required to consider whether or not to adopt a standard whereby:

> Each electric utility shall make available, upon request, interconnection service to any electric consumer that the electric utility serves. For purposes of this paragraph, the term "interconnection service" means service to an electric consumer under which an on-site generating facility on the consumer's premises shall be connected to the local distribution facilities. . . . All such agreements and procedures [for interconnection] shall be just and reasonable, and not unduly discriminatory or preferential.[43]

This is an important companion to the fuel diversity standard because it addresses the physical delivery of power from on-site sources, such as renewable energy generators, to potential purchasers and markets.

Although adoption of any or all of the five standards under Title I of PURPA (fuel diversity, DG Interconnection, net metering, time-of-use rates and smart metering, and fossil fuel generation efficiency) is not mandatory, the procedures for consideration, which have been in place since PURPA was enacted in 1978, require that decisions be based on substantive deliberation. PURPA at Title I prescribes the following: state regulatory authorities and non-regulated electric utilities must provide notice and hold hearings to consider the standards; they must make transcripts of the hearings and make them available to parties or interveners in the proceedings; affected electric utilities and consumers of affected electric utilities have a right to intervene and participate in the proceedings; and all determinations must be made in writing and based upon evidence presented at the hearing.[44]

### *B. State, Local, and Regional Renewable Programs*

During the consideration of federal energy legislation, more and more states, electric utilities, and local jurisdictions established RPSs, renewable goals or other programs,[45] many of which include RECs that in some instances can be traded on an interstate basis. Likewise, regional consortiums are supporting renewable efforts and goals. Iowa enacted the first renewable program back in 1983, followed by Minnesota in 1994 and Arizona in 1996.[46] Currently, there are twenty-eight renewable programs in place in the United States: twenty-two states and the District of Columbia have enacted or implemented a RPS or renewable goal program (of these, Minnesota has two: a renewable goal for

---

43. *Id.* § 1254(a).

44. *See* 16 U.S.C. § 2621 (2000).

45. Even supporters of a federally-mandated RPS acknowledged that state programs are getting results and "have proven that renewable electricity standards are popular and can be effective. We project that state RPS laws and regulations will provide support for more than 25,550 megawatts (MW) of new renewable power by 2017–an increase of 192 percent over total 1977 U.S. levels (excluding hydro)." *Ways to Encourage the Diversification of Power Generation Res.: Hearing Before the S. Comm. On Energy and Nat. Res.*, 109th Cong. 48 (2005) (statement of Alan Nogee, Director, Clean Energy Program, Union of Concerned Scientists). Mr. Nogee concluded, however, that such results were not enough. *Id.*

46. *See* Renewable Portfolio Standards, http://www.dsireusa.org/library/includes/seeallincentivetype.cfm?type=RPS&currentpageid=2&search=Type&EE=1&RE=1 (last visited Aug. 28, 2006). *See also* Alan Nogree, Director, Clean Energy Program, Union of Concerned Scientists, Presentation at the AWEA RPS Workshop (Mar. 7, 2006).

electric utilities other than Xcel Energy, and a wind and biomass mandate for Xcel); Fort Collins, Colorado, Columbia, Missouri, and Austin, Texas have renewable programs; and a utility, Jacksonville Electric Authority in Florida, has a program.[47] Sectors of the industry to which these programs apply range from the RPSs of Delaware and Wisconsin (which apply to all utilities and retail suppliers, including municipals and electric cooperatives), to Nevada's RPS for investor-owned utilities (IOUs).[48] Standards, measured in terms of percentages or megawatts (MWs) of renewable power generated, purchased or acquired via RECs, are all over the map. For example, Maryland requires 7.5% of retail sales by 2019; Iowa requires its utilities annually to contract for a combined 105 MWs of renewable energy; and Connecticut requires 10% retail sales by 2010.[49]

Many of these programs have been in place long enough for the states or other implementing entities to gauge their efficacy, and to refine or even restructure the programs if necessary to take into account evolving state or local factors. This is the flexibility factor that is essential in designing and operating any renewable program, as discussed *infra* at Part IV.B to Part IV.F. Accordingly, many programs have been amended to require or recommend higher standards than those originally established. California, already considered a sort of juggernaut for renewable issues, appears to be in the final stages of gaining approval for accelerating its RPS from 20% of retail sales by retail sellers by 2010 to 33% by the end of 2020.[50] Likewise, the Arizona Corporation Commission (ACC), on March 14, 2006, issued a Notice of Proposed Rulemaking to increase the standard for a utility's renewable portfolio from 1.1% in 2007-2012 to 15% by 2025, with 30% of renewables coming from DG resources.[51] Wisconsin recently revisited its 1999 standard when the

47. *See* Renewable Portfolio Standards, http://www.dsireusa.org/library/includes/seeallincentivetype.cfm?type=RPS&currentpageid=2&search=Type&EE=1&RE=1 (last visited Aug. 28, 2006).

48. *Id.*

49. *See* Renewable Portfolio Standards, http://www.dsireusa.org/library/includes/seeallincentivetype.cfm?type=RPS&currentpageid=2&search=Type&EE=1&RE=1 (last visited Aug. 28, 2006). Programs cited are for illustrative purposes; it is not possible to discuss all programs here. For a more comprehensive treatment of these programs, the reader may consult the Database of State Incentives for Renewable Energy (DSIRE), *available at* http://www.dsireusa.org. The database contains information on state, local, utility, and some federal incentives that promote renewable energy and energy efficiency. It is a project of the Interstate Renewable Energy Council, funded by the U.S. DOE and managed by the North Carolina Solar Center.

50. *Id.* The California Public Utilities Commission (CPUC) is considering the California Energy Commission's (CEC) recommendation for a 33% standard, which is set forth in the CEC's Integrated Energy Policy Report, Nov. 2005. *See* MELISSA JONES, ET AL., INTEGRATED ENERGY POLICY REPORT, CAL. ENERGY COMM., (2005). California is the only state that has a "loading order" that requires the three IOUs within the state to prioritize among energy and efficiency sources to meet load. The loading order was established in the 2003 Energy Action Plan prepared by the CPUC, the CEC, the California Consumer Power and Conservation Financing Authority. Under this, each IOU must first encourage energy efficiency and demand response to manage electricity demand, then meet new generation needs with renewable energy and DG resources, and then with clean, fossil-fueled generation. *See also* CALIFORNIA ENERGY COMM'N STAFF REPORT, IMPLEMENTING CALIFORNIA'S LOADING ORDER FOR ELEC. RES. (2005). Similarly, Colorado has a "Least-Cost Planning Rule" on the books, which requires a utility to consider, among others, renewable resources as well as energy efficiency technologies and resources that help insulate from fuel price increases. *See* 4 COLO. CODE REGS. § 723-3610(f) (2006).

51. *See* Renewable Portfolio Standards, http://www.dsireusa.org/library/includes/seeallincentivetype.cfm?type=RPS&currentpageid=2&search=Type&EE=1&RE=1 (last visited Aug. 28, 2006). *See also* In re The

Wisconsin State Legislature enacted SB 459, under which the statewide renewable goal for retail sales increased from 2.2% by 2012 to 10% by the end of 2015.[52] New Jersey is giving California a run for its money for the most aggressive RPS. In April 2006, the New Jersey Board of Public Utilities significantly increased, based on classes or tiers of renewable energy, the standard to 22.5% by 2021.[53] While it is difficult to measure the cumulative renewable energy from all of these programs, one study projected that compliance with RPS and renewable goals would result in an increase from ten gigawatts (GWs) in 2003 to forty GWs in 2015.[54] However, because a growing number of states are increasing the levels of renewable energy required,[55] this cumulative could correspondingly be greater.

Additionally, regional alliances are working to promote renewables. The Western Governors' Association (WGA)[56] agreed upon a resolution that calls for the development of thirty GWs of renewable energy by 2015.[57] In the Northeast, governors in New England and premiers from Canadian provinces set a policy goal of 10% renewable energy by 2020.[58]

Furthermore, many states require their state agencies to procure power from renewable sources. Connecticut's Green Power Purchase Plan directs state agencies and universities to purchase renewable power, with a goal of meeting 20% of power needs by 2010 and up to 100% in 2050.[59] Similarly, state agencies in New Jersey are required to purchase an aggregate of 12% of their energy usage from renewable sources, and New York's Renewable Power Procurement Policy committed the state government to purchase 10% of its power from renewables by 2005 and 20% by 2010.[60] Likewise, local governments are establishing their own programs: Montgomery County, Maryland purchases 5% of its power from wind sources; Portland, Oregon has

---

Proposed Rulemaking for the Renewable Energy Standard and Tariff Rules, Ariz. Corp. Comm'n, Decision No. 68566 (March 14, 2006).

52. *See* Renewable Portfolio Standards, http://www.dsireusa.org/library/includes/seeallincentivetype.cfm?type=RPS&currentpageid=2&search=Type&EE=1&RE=1. (last visited Aug. 28, 2006) *See also* S.B. 459, 2005-06 Leg. (Wis. 2006).

53. *See* Renewable Portfolio Standards, http://www.dsireusa.org/library/includes/seeallincentivetype.cfm?type=RPS&currentpageid=2&search=Type&EE=1&RE=1 (last visited Aug. 28, 2006). *See also* N.J. ADMIN. CODE §§ 14:8-2.1 to 14:8-2.12 (2006).

54. *See* Michal Eckhart, President, Am. Council on Renewable Energy, State of Renewable Energy 2006 (Jan. 17, 2006), *available at* http://www.acore.org/pdfs/State-of-RE-ACORE-1-17-2006.pdf. (reproducing RPS targets from a study conducted by Navigant Consulting, Inc. in Sept., 2005) [hereinafter ACORE Presentation].

55. See Barry Rabe, RACE TO THE TOP: THE EXPANDING ROLE OF U.S. STATE RENEWABLE PORTFOLIO STANDARDS 7 (Pew Center on Global Climate Change) (2006).

56. The WGA includes CA, AK, WY, OR, MN, NE, ID, AZ, CO, MO, WI, TX, UT, ND, SD, KS, and NM. *See* Kevin Moran, Presentation to W. Governor's Assoc. on Clean and Diversified Energy Initiative (Oct. 18, 2005) [hereinafter WGA Presentation], *available at* http://www.acore.org/pdfs/05policy_Moran.pdf.

57. *Id.* at 3.

58. *See Governors, Premiers Urge 10% More Renewables in Northeast*, PLATTS ELEC. POWER DAILY, May 16, 2006 (reporting on the 30th Annual Conference of the New England Governors and eastern Canadian premiers, May 12-13, 2006).

59. *See* Connecticut - Green Power Purchase Plan, http://dsireusa.org/library/includes//incentive2/cfm?Incentive_Code=CT07R&state=CT&CurrentPageID=1&RE=1&EE=1 (last visited Aug. 28, 2006).

60. *See* Exec. Order No. 111 (2001), *available at* http://www.nyserda.org/programs/exorder111.asp (last visited Aug. 28, 2006).

met its current goal of 12% renewable purchases, with an eye towards 100%; and Conway, South Carolina's Green Power Purchasing program obligates the city to purchase fifty 200 kilowatt-hour (kWh) blocks of electricity per month that is generated by landfill gas.[61] Several states require utilities to offer their customers green power under specified tariffs: Iowa requires all utilities operating within the state to offer green power options to their customers; and electric utilities in Minnesota must offer green power as well.[62] At the local level, many municipalities and cooperatives have established their own green power purchasing programs.[63]

### *C. Financial Incentives*

Financial incentives are in place at the federal, state, and local levels, including tax credits for renewable development and other production incentives, customer rebates, and research, and development grants. The importance of these programs in providing encouragement, inducement, and support for renewable technologies, research and project development cannot be overstated. At the federal level, EPAct 2005 enhances these opportunities by, among other things, amending renewable production incentives that are set forth in the Energy Policy Act of 1992.[64] Under EPAct 2005, the renewable energy production tax credit (PTC) is extended through 2007, and includes incremental and new hydropower and Indian coal as qualifying energy resources.[65] The American Wind Energy Association (AWEA) estimated that up to 2,500 MW of wind energy capacity was scheduled to go on line by 2005, and that the extension of the PTC would continue this strong growth momentum.[66] Also, as a result of the Act, electric cooperatives and public power systems have the ability to issue "Clean Renewable Energy Bonds" (CREB).[67] A CREB, known as a tax credit bond, delivers to co-ops, municipalities, and Indian Tribes for the first time an

61. *See* Conway - Green Power Purchasing, http://www.dsireusa.org/library/includes/map2.cfm?CurrentPageID=1&State=SC&RE=1&EE=1 (last visited Aug. 28, 2006).

62. *See* Minnesota Mandatory Util. Green Power Option, http://www.dsireusa.org/library/includes/incentive2.cfm?Incentive_Code=MN05R&state=MN&CurrentPageID=1&RE=1&EE=1 (last visited Aug. 28, 2006).

63. *Id.* (discussing municipalities such as Scottsdale, AZ, Davis, CA, Aspen, CO, and Salt Lake City, UT). Additionally, electric cooperatives such as Joe Wheeler in Alabama, Holy Cross Energy in Colorado, and Vigilante Electric Cooperative in Idaho offer green pricing programs. *See* NATIONAL RURAL ELECTRIC COOP. ASSOC., WHITE PAPER ON RENEWABLE ENERGY APPX. 3 (2005), *available at* http://nreca.coop/PublicPolicy/ElectricIndustry/renewableenergy.htm (last visited Aug. 28, 2006) [hereinafter NRECA WHITE PAPER ON RENEWABLE ENERGY].

64. *See* Energy Policy Act of 2005, Pub. L. No. 109-58, § 202, 119 Stat. 594.

65. *Id.* at § 1301. Currently, there are at least two bills pending in Congress that would increase the sunset date to 2011 (H.R. 4384) and to 2012 (S. 5010). *See* H.R. 4384, 109th Cong. (2005) *and* H.R. 5010, 109th Cong. (2005). *See also* Memorandum from Fred Sissine, Specialist in Energy Policy Res., Sci., and Indus. Div., Cong. Research Serv. (updated May 30, 2006) (CRS document entitled *Energy Efficiency and Renewable Energy Legislation in the 109th Congress*) [hereinafter CRS MARCH 2006 REPORT].

66. *See* Press Release, AWEA, Energy Bill Extends Wind Power Incentive through 2007 (July 29, 2005), *available at* http://www.awea.org/news/energy_bill_extends_wind_power_072905.html. *See also Renewable Power Outlook 2005*, PLATTS ELEC. POWER DAILY, March 14, 2005, *available at* http://www.platts.com /Coal/highlights/2005/coalr_03405.xml (last visited Aug. 28, 2006) (projected that with the PTC, installed capacity from wind will grow from 6.4 GWs to 35.6 GWs by 2016).

67. *See* Energy Policy Act of 2005 § 1303.

incentive comparable to the PTC, offering an interest-free loan for financing qualified renewable energy projects for a limited term.[68] To date, electric cooperatives have made application to the United States Treasury Department for almost $500 million in CREBS to finance fifty-eight renewable projects across America.[69] Section 1306 of the Act establishes a production tax credit for new advanced nuclear power facilities with a credit amount of 1.8 cents per KWh for electricity produced over an eight-year term. Section 202 reauthorizes the Renewable Energy Production Incentive until 2026. Section 203 sets goals for federal purchasing of renewable energy up to 7.5% in fiscal year 2013 and each fiscal year thereafter. Sections 124 and 206, respectively, establish rebates for residential consumers who satisfy qualified state energy efficient appliance programs (up to $50 million annually through 2010), and for consumers who install renewable energy systems to homes or small businesses (with an annual cap of $150 million in 2006 and $250 million by 2010).[70] A few other federal bills also provide for funding for renewable energy and ancillary purposes. The Fiscal Year (FY) 2006 Appropriations Act for the U.S. Department of Agriculture (USDA) includes $23 million in funding for the USDA's renewable energy loan program and the DOE Appropriations Act for FY 2006 includes $1,185.7 million for DOE's energy efficiency and renewables programs.[71]

The federal incentives, particularly the PTC and CREB, provide uniform financial support to the renewable energy industry. They do not create inequities among states, which, according to the opponents of S. Amdt. 791, would have

68. *Id.* Resources that qualify for CREBs are the same as those that qualify for PTC.

69. *See* Press Release, Natl. Rural Elec. Coop. Assoc., Co-ops Eye $500 Million in Renewable Generation (May 25, 2006).

70. *See* CRS MARCH 2006 REPORT, *supra* note 64. The Act created investment tax credits for clean coal technologies up to $800 million for integrated gasification combined cycle (IGCC) projects, $500 million for other advanced coal-based technologies, and $350 million for industrial gasification. *See* Energy Policy Act of 2005 § 1307. Additionally, while it is not *per se* a renewable resource, energy efficiency, it is argued, is the most effective method of energy conservation, and as such works in tandem with renewables development to consume less fossil fuel and to protect the environment. Towards this end, EPAct 2005 contains several provisions supporting energy efficiency: Section 102 establishes a goal for federal facilities to reduce energy consumption by 20% by 2015; Section 104 requires federal agencies to purchase EPA "Energy Star" and FEMA-qualified products; Section 105 extends the Energy Savings Performance Contracts up to a $500 million cap; Sections 1312 and 1317 creates tax credits to the tune of $397 million for energy efficiency; Section 1335 provides a personal tax credit for qualified fuel cell and solar water heating property (with a cap); Section 1336 provides a business tax credit for purchasing qualified fuel power plants for businesses (with a cap); and finally, Section 209 appropriates $20 million annually through 2012 for grants in rural and remote communities to increase energy efficiency, transmission upgrades, and modernization of electric generation facilities, with the preference going to renewable energy facilities. *See also* CRS MARCH 2006 REPORT, *supra* note 64. It should be noted that the Bush Administration's Proposed Fiscal Year 2007 Budget (Proposed FY 2007 Budget) would decrease funding for certain programs (examples of this include a 30% cut from the FY 2006 appropriation for DOE's electricity research and development programs, many of which focus on efficiency, and a 32% cut for the Weatherization Program over the 2006 FY numbers). *Id.; see also* ALLIANCE TO SAVE ENERGY FEBRUARY, PRESIDENT'S FY 2007 BUDGET WOULD CUT ENERGY EFFICIENCY FUNDING (Feb. 2006), *available at* http://www.ase.org/content/article/detail/2915 (last visited Aug. 28, 2006). Most recently, the Senate passed its own Proposed FY 2007, which includes additional support for renewable energy and energy conservation and efficiency that is deficit neutral. *See* CRS MARCH 2006 REPORT, *supra* note 64.

71. *See* Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act for 2006, Pub. L. No. 109-97, 119 Stat. 2120 (2005); Energy and Water Development Appropriations Act for 2006, Pub. L. No. 109-103, 119 Stat. 2247 (2005). *See also* CRS MARCH 2006 REPORT, *supra* note 64.

occurred under the SREAP.[72] Nor do they impose cost shifts among ratepayers, which occur when utilities are required to purchase renewable energy at a price that exceeds the value of the power.[73] These programs and the state incentives represent the most efficient, cost-effective, and equitable means of supporting the renewable industry. It is imperative that these programs are funded at levels that enable renewables to compete with fossil fuels.

State incentives, like their federal counterparts, provide critical benefits for renewable resources that do not distinguish among consumer groups. Many states offer tax credits/rebates to various taxpayer groups. For instance, residential consumers in Idaho, North Carolina, North Dakota, and Utah can receive personal tax credits on equipment and installation costs for renewable heating and/or electric generation.[74] In New Mexico, North Carolina, North Dakota, and Oklahoma, commercial and industrial consumers can receive corporate tax credits on property using renewable systems.[75] The credits can be focused on those renewable technologies that are available in individual states. Likewise, manufacturers of renewable equipment in North Carolina, Oklahoma, and Washington can receive corporate tax credits, which can be used to attract manufacturing jobs to the state, and can also be focused on manufacturers locating in depressed communities within the state.[76] Renewable systems in Connecticut, Illinois, Iowa, and Tennessee may be eligible for special property assessments to reduce the tax burden on those who make significant capital investments in renewable technologies.[77] Purchasers of renewable equipment and systems in Florida, Idaho, and Nevada can receive rebates on sales taxes, lowering the up-front cost of renewable energy technologies, which is often the greatest barrier to investment.[78] Similarly, in states such as California, Illinois, and Rhode Island, purchasers of renewable equipment and systems can receive state rebates on a percentage of the actual equipment or system costs or on a MWh basis, which also serves to lower the up-front costs of investment in renewable energy technologies.[79]

States also offer grants and trust funds for research and development of renewable production and technologies. In Delaware, Illinois, and Iowa, research and development grants support the development and marketing of new

72. *See supra* Part II.

73. *See supra* Part II.

74. *See* IDAHO CODE ANN. § 63-3022C (2006); N.C. GEN. STAT. §§ 105-129.5, 105-129.16A-19 (2005), N.D. CENT. CODE § 57-38-01.8 (2006); UTAH CODE ANN. § 59-10-1014 (2006).

75. *See* N.M. STAT. § 7-2A-19 (2006); N.C. GEN. STAT. §§ 105-129.15, 105-129.16A-19 (2006); N.D. CENT. CODE § 57-38-01.8 (2006); OKLA. STAT. tit. 68 §§ 2357.32A, 2357.32B (2006).

76. *See* N.C. GEN. STAT. § 105-130-28 (2006); OKLA. STAT. tit. 68 § 2357.32B (2006); S.B. 5111, 59th Leg., First Reg. Sess. (Wash. 2005).

77. *See* CONN. GEN. STAT. § 12-81 (2006); 35 ILL. COMP. STAT. 200/10-10, 200/10-5 (2006); IOWA CODE §§ 427B.26, 427.1(29), 441.21 (2006); TENN. CODE ANN. § 67-5-601 (2006).

78. *See* FLA. STAT. § 212.08 (2006); IDAHO CODE ANN. § 63-3622Q (2006). *See also* Nevada Incentives for Renewables and Efficiency, http://www.dsireusa.org/library/includes/incentive2.cfm?Incentive_Code=NV08F&state=NV&CurrentPageID=1&RE=1&EE=1 (last visited Aug. 28, 2006).

79. *See* A.B. 970, 2001 Gen. Assem., Reg. Sess. (Cal. 2001); A.B. 1685, 2003 Gen. Assem., Reg. Sess. (Cal. 2003); 20 ILL. COMP. STAT. 687/6-3 (2006). *See also* Rhode Island Incentives for Renewables and Efficiency, http://www.dsireusa.org/library/includes/incentive2.cfm?Incentive_Code=RI05F&state=RI&CurrentPageID=1&RE =1&EE=1 (last visited Aug. 28, 2006) (discussing incentives in Rhode Island).

renewable energy technologies, which can significantly support those businesses within the state whose work is related to renewable energy technologies or a depressed area within the state.[80] Finally, California, Minnesota, Nevada, and Washington offer production incentives in the form of RECs that can be traded or sold as well as in the form of supplemental energy payments or tax credits to offset higher production costs.[81]

## IV. FLEXIBLE RENEWABLE PROGRAMS ARE MUCH MORE LIKELY TO REALIZE THE BENEFITS FROM RENEWABLES THAN A MANDATED RPS

Congressional efforts to impose a mandated RPS contained little opportunity for local variances, or for the flexibility or reconsideration that are essential components in furthering renewable goals while meeting the country's power supply needs in a cost-effective and reliable manner. As discussed *supra* at Part II, the debates surrounding S. Amdt. 791 highlighted this shortcoming in that RPS proposal. Fortunately, the amendments Congress enacted to Title I of PURPA respecting fuel diversity did not suffer from the same problem.[82]

Flexibility means that elements of a renewable program can be revised if necessary. Renewable programs should be designed to be flexible in order to balance conservation and environmental benefits against associated costs and reliability concerns. Flexibility is important because programs oftentimes need to be revised to maintain this balance and offer workable solutions for consumers. A RPS or any renewable program should promote energy efficiency and conservation in the context of obtaining affordable and reliable power. Flexibility at the state, local, and utility levels is essential in establishing RPSs or renewable programs that foster these same goals. Those who are implementing the programs must be able to review or reconsider elements as a means of fulfilling the purpose of renewables while safeguarding the need for safe, reliable, and affordable power.

Renewable advocates have been urging flexibility in designing renewable programs for years. In 2001, the Texas RPS was touted as a success in that it demonstrated that a RPS, if designed properly, can deliver a "low-cost, flexible, and effective support mechanism for renewable energy."[83] Moreover, an analysis of state programs undertaken in 2001 concluded that state experiences showed that "an RPS can be ineffective unless careful attention is given to the

80. *See* S.B. 145, 142 Gen. Assem., 2003 Reg. Sess. (Del. 2003); 20 ILL COMP. STAT. 687/6-3; IOWA CODE § 266.39(c) (2006).

81. *See* S.B. 1038, 2002 Gen. Assem. Reg. Sess. (Cal. 2002); S.B. 1078, Gen. Assem. 2002, Reg. Sess. (Cal. 2002); MINN. STAT. § 216C.41 (2005); NEB. ADMIN. CODE §§ 704.8901-704.8939 (2005); S.B. 5101, 59th Leg., Reg. Sess. (Wash. 2005). The ability to realize incentives from trading or selling RECs does not mean necessarily that RECs are eligible to meet state renewable goals, as is the case in California, where the debate on REC inclusion in the RPS continues.

82. *See* 16 U.S.C. § 2621 (2000).

83. R. WISER & O. LANGNISS, THE RENEWABLES PORTFOLIO STANDARD IN TEXAS: AN EARLY ASSESSMENT 11 (Lawrence Berkeley Nat'l Lab.) (2001) [hereinafter TEXAS STUDY]. *See also* R. WISER, K. PORTER, & R. GRACE, EVALUATING EXPERIENCE WITH RENEWABLES PORTFOLIO STANDARDS IN THE UNITED STATES 26 (Lawrence Berkeley Nat'l Lab.) (A principle of RPS policies design and best practices is for the RPS to be cost-effective and flexible).

details of the RPS design."[84] It is essential to design a renewable standard or goal that incorporates many separate elements including structure, size, administration, policy goals, resource eligibility, production targets, and coordination with other policies such as financial incentives, and most importantly, the flexibility to reassess and refine all of the above.[85] The congressional debate of S. Amdt. 791 focused on whether or not elements of the proposed RPS would prove too intractable concerning factors such as reliability, costs, and eligible renewable sources to ensure its own effectiveness. It is often said "the devil is in the details," which is precisely the reason why renewable programs should be left to those who understand the mechanics of obtaining cleaner power that is also reliable and cost-effective.

*A. Consideration Under PURPA Title I*

By including fuel diversity in the new standards to Title I of PURPA, Congress acknowledged that a "one-size-fits-all" approach to renewables would not work; the states and utilities were the appropriate *fora* for adopting renewable or fuel diversity measures. Even though this approach accorded more flexibility than a mandated federal RPS, it did not provide regulators and utilities unfettered discretion in the decision-making process. Moreover, state law has a critical role in the decision-making process. In addition to the procedural requirements discussed *supra* at Part III.A, state regulatory authorities and applicable unregulated electric utilities must ascertain whether or not it is appropriate to implement the fuel diversity standard (as well as the other four) to carry out the purposes of PURPA, which are to encourage: (1) conservation of energy supplied by electric utilities; (2) optimization of the efficiency of use of facilities and resources by electric utilities; and, (3) equitable rates to electric consumers.[86] These purposes certainly are consonant with those of EPAct 2005 as well as those of the many failed RPS legislative efforts.[87] But they do not provide the only standard by which decisions must be made. These enumerated purposes "supplement" otherwise applicable state law.[88] State regulators and non-regulated electric utilities are not prohibited from determining that implementing a fuel diversity plan is not appropriate pursuant to their authority under applicable state law.[89] In essence, here, state law is controlling when reviewed in conjunction with encouraging conservation, energy efficiency, and equitable rates.

84. Memorandum from Fred Sissine, Specialist in Energy Res., Science, and Indus. Div., Congressional Research Service (Nov. 27, 2001) (CRS Memo is entitled *Renewable Energy Portfolio Standard*) [hereinafter Sissine CRS Memo].

85. *See, e.g.*, Dr. Ryan Wiser, Scientist, Lawrence Berkeley Nat'l Lab., Meeting Expectations: A Review of State Experience with RPS Policies (March 2006). *See also* Sissine CRS Memo, *supra* note 83, at 2 (referencing TEXAS STUDY, *supra* note 82 (citing Nancy Rader, *The Hazards of Implementing Renewables Portfolio Standards, Energy and Environment*, 11-4 ENERGY AND ENVIRONMENT 391 (2002)). *See also* NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS, THE RENEWABLES PORTFOLIO STANDARD: A PRACTICAL GUIDE (2001).

86. *See* 16 U.S.C. § 2611 (2000).

87. *See supra* Part II.

88. *See* 16 U.S.C. § 2621(a) (2000).

89. *Id.*

Additionally, existing programs may be grandfathered under Title I of PURPA. Unlike S. Amdt. 791, which did not provide for any exemption from the federal RPS, PURPA stipulates that existing comparable programs may, under certain circumstances, satisfy this standard. Under this "savings clause" in PURPA Title I, state regulators and non-regulated electric utilities do not have to undertake the consideration process for fuel diversity or DG Interconnection if, before the date of enactment of EPAct 2005 (August 8, 2005), the state has implemented the standard or a comparable one for the affected utility, the state regulatory authority or non-regulated electric utility has considered in a proceeding the standard or a comparable one, or the state legislature voted on the implementation of the standard or a comparable one.[90]

*B. Flexibility in Assessing Reliability*

Like renewables programs, there is no "one-size-fits-all" approach to assessing reliability of renewable resources. Certainly some, such as biomass and landfill gas, are dispatchable.[91] Since there is no guarantee that wind and solar will generate power when needed, purchasing utilities may be forced to continue to operate traditional fossil-fuel, back-up generators when necessary. Because of the need to run these back-up systems, the environmental and economic benefits of certain renewable resources may be overstated.[92] In a recent study, the North American Electric Reliability Council (NERC) noted that because renewable resources are intermittent in nature, generating capacity that is available during peak periods is less predictable than capacity from traditional fuels, and energy actually produced during these times is even smaller. According to NERC, reliability has two components—supply adequacy and operating reliability. Two elements of renewables—intermittence and low energy production—necessitate that back-up resources and transmission capacity be available to ensure supply adequacy. Additionally, renewable resources must be assessed on their ability to provide levels of reactive power capability, voltage regulation, and low-voltage ride-through capability sufficient to maintain connection to the bulk transmission system under low-voltage conditions.[93]

To the extent that implementers of renewable programs perceive that the lack of reliability creates a barrier to successful incorporation of renewables into

90. *See* Energy Policy Act of 2005, Pub. L. No. 109-58, §§ 1251, 1252, 1254, 119 Stat. 594 (amending PURPA, 16 U.S.C. § 2623 (2000)). In this context, "comparable" would seem to apply not only to the substantive determination that may serve to grandfather, but also to the procedure through which the decision was made. However, neither the PURPA nor EPAct 2005 defines "comparable."

91. A recent multi-year (2002-04) CEC report shows the following capacity credits (ranges based on years) for various fuel sources, using a conventional medium gas unit as a benchmark: gas-100% relative to annual peak generation (APG) and 100% relative to reported nameplate capacity (NC) for all years; biomass-98% for APG and NC for all years; and wind in N. Cal.-33% to 44% APG and 24% to 30% NC during year range. *See* CAL. WIND ENERGY COLLABORATIVE, CALIFORNIA RENEWABLE PORTFOLIO STANDARD: RENEWABLE GENERATION INTEGRATION COST ANALYSIS EXECUTIVE SUMMARY TABLE 1 (2006), *available at* http://www.energy.ca.gov/2006publications/CEC-500-2006-024/CEC-500-2006-024.PDF.

92. *See* NRECA WHITE PAPER ON RENEWABLE ENERGY, *supra* note 62, at 39 (citing Glenn R. Schleede, Comments to Assoc. Elec. Coop. Inc. 2004 Annual Meeting: Facing Up To the True Costs and Benefits of Wind Energy (June 24, 2004).

93. *See 2005* NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL, LONG-TERM RELIABILITY ASSESSMENT: THE RELIABILITY OF BULK ELECTRIC SYSTEMS IN NORTH AMERICA 27 (2005).

utility portfolios, the RPSs or other programs can be and are being revisited. For instance, Texas recently amended its statute to require utilities to upgrade their transmission systems to meet RPS goals and to be able to recover those costs in their rate bases.[94] In California, the IOUs have expressed concern that they may not be able to meet the 20% by 2010 standard because of transmission constraints.[95]

### *C. Flexibility in Evaluating Costs*

Like the reliability debate, cost-effectiveness of renewables prompts a myriad of responses. Here as well, there is no panacea for ensuring cost-effectiveness of a renewable resource. It is not surprising that renewable programs across the country affect consumer rates differently. In a 2005 study, the U.S. Department of Energy's Energy Efficiency and Renewable Energy (EERE) charted the average expected cost impact of eight state programs on consumer residential bills (without renewables percentages specified); findings ranged from savings of $3.50/year in 2010 in California, to no impact in Washington, to additional costs in Pennsylvania of $3.50 on average annually.[96]

A DOE consumers guide, addressing wind energy in rural areas, observed that "[d]epending on your wind resource, a small wind energy system can lower your electricity bill by 50% to 90%, help you avoid the high costs of extending utility power lines to remote locations, prevent power interruptions, and it is nonpolluting."[97] However, that is a significant "depend." Even renewable advocates acknowledge that costs, such as high transmission costs, high financing costs, and high transactions costs for technologies, including, but not limited to wind, contribute to the market barriers for renewables.[98] These are quantifiable indicia, whereas some of the benefits, such as reduced pollution and energy diversity, are less easy for the market to reflect, creating little incentive for consumers to switch. This perception may seem less than fair.[99]

---

94. *See* S.B. 20, 79th Leg., 1st Sess. (Tex. 2005). *See also* Scottsdale - Green Power Purchasing, http://www.dsireusa.org/library/includes/seeallincentivetype.cfm?type=Purchase&currentpageid=2&search=Type&EE=1&RE=1 (last visited Aug. 28, 2006).

95. In its 2006 Short-Term Renewable Procurement Plan, filed with the CPUC on December 22, 2005, San Diego Gas & Electric Co. stated that its ability to deliver a cost-effective 20% renewable mix by 2010 was dependent upon access to transmission to areas where renewable generation is being cited. Similarly, Pacific Gas and Electric Co., in its 2006 Short-Term Renewable Procurement Plan, dated December 22, 2005, urged the CPUC to permit greater flexibility in allowing delivery of renewable energy anywhere within California rather than requiring physical delivery to the utility's own system. *See* JEFF STANFIELD, SDG&E NOT SURE IT CAN MEET 2010 RENEWABLES STANDARD: SNL ENERGY ELEC. REPORT 31-31 (January 9, 2006) [hereinafter SNL ENERGY ELECTRICITY REPORT].

96. *See* ENERGY EFFICIENCY AND RENEWABLE ENERGY, U.S. DEPT. OF ENERGY, RENEWABLES PORTFOLIO STANDARD OVERVIEW (2005).

97. ENERGY EFFICIENCY AND RENEWABLE ENERGY, U.S. DEPT. OF ENERGY, SMALL WIND ELEC. SYSTEMS: A U.S. CONSUMER'S GUIDE 1-2 (2005), *available at* http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=876.

98. *Ways to Encourage the Diversification of Power Generation Res.: Hearing Before the S. Comm. On Energy and Nat. Res.*, 109th Cong. 48 (2005) (statement of Alan Nogee, Director, Clean Energy Program, Union of Concerned Scientists). *See also* ACORE Presentation, *supra* note 54, at 14.

99. AWEA describes it as the "free rider" phenomenon: consumers are reluctant to volunteer to pay more for renewables where benefits are spread more broadly. *See* AMERICAN WIND ENERGY ASSOCIATION, THE RENEWABLES PORTFOLIO STANDARD: HOW IT WORKS AND WHY IT'S NEEDED 3 (2005).

Nonetheless, as discussed *supra* at Part II, cost to consumers was a critical component of the debates revolving around S. Amdt. 791.

Certainly, statewide and local programs are grappling with costs. New Mexico amended its RPS statute to include a "reasonable threshold" standard whereby, if the cost of the renewable energy was above a state commission-established level, the utility was not obligated to add that renewable to its portfolio. Likewise, Arizona's standard included a caveat that if the cost of solar technologies did not decrease to an ACC cost/benefit threshold, the recent increase would not have been implemented.[100] Montana's program includes caps on the additional costs to utilities, which may only recover costs under contracts pre-approved by the Montana Public Service Commission.[101] At a more local level, Columbia, Missouri's RPS must be met to the extent that it does not increase electric rates more than 3% from the otherwise applicable rate level.[102]

### *D. Flexibility in Choosing Eligible Renewable Sources*

Eligible fuel sources constituted a third bone of contention in the debate of S. Amdt. 791. As discussed *supra* at Part II, advocates of a broader list argued that since no one resource/fuel is prevalent and available in every single region, state, or utility service area, a successful renewable program would encompass whatever was there, including hydroelectric, nuclear, and municipal waste.[103] Proponents of a narrow list asserted that the purpose of a federal RPS was to incentivize a market for new renewables, which would succeed only if eligibility were limited to less prevalent technologies such as photovoltaics, solar, and wind.[104] What these proponents either failed or refused to grasp is that, with this significant range of natural resource diversity, a federal market (even with congressional support) is not practicable. A federal market is not practicable because utilities in regions with less abundant eligible resources would only pay into the market and would never benefit from the market financially. Market circumstances vary as much as the available renewable fuel sources do, since one is dependent upon the other. In the Texas Study, Wiser and Langniss

---

100. *See* Scottsdale - Green Power Purchasing, http://www.dsireusa.org/library/includes/seeallincentive type.cfm?type=Purchase&currentpageid=2&search=Type&EE=1&RE=1 (last visited Aug. 28, 2006). On February 27, 2006, the Arizona Corporation Commission voted to increase the standard and to increase the customer surcharge to pay for it. *See* Press Release, Ariz. Corp. Comm'n, 15 Percent of Arizona's Energy to Come from Renewables by 2025 (Feb. 28, 2006).

101. *See* Montana - Renewables Portfolio Standard, http://www.dsireusa.org/library/includes/incentive search.cfm?Incentive_Code=MT11R&state=MT&currentpageid=2&search=State&EE=1&RE=1 (last visited Aug. 28, 2006). Costs create uncertainty from all perspectives. Recently, PacifiCorp issued a re-bid of a Request for Proposals (RFP) for renewable power to be delivered by the end of 2006. PacifiCorp was forced to take this step when the majority of proposals submitted in response to the utility's 2004 RFP failed to move forward as turbine and steel costs escalated. *See PacifiCorp RFP seeks 1.000 MW of Renewables*, PLATTS MEGAWATT DAILY, Mar. 24, 2006, at 1.

102. *See* Missouri Columbia - Renewables Portfolio Standard, http://www.dsireusa.org/library/includes/ incentivesearch.cfm?Incentive_Code=MO04R&state=MO&currentpageid=2&search=State&EE=1&RE=1 (last visited Aug. 28, 2006).

103. *See Supra* Part III.B, fuels that are not *per se* renewable, such as nuclear (absent a breeder reactor) and waste coal may, however, be "green" and as such are eligible under several state programs.

104. *See supra* at Part II .

conclude that one of the most important problems in RPS design is "[i]nadequate attention to the relationship between the renewable energy purchase requirement and eligible renewable energy sources."[105]

States and local programs have been structured to take advantage of Mother Nature as well as man-made and animal-generated products. In Maryland's case, that includes poultry-litter incineration, which uses a byproduct from a long-standing Maryland industry.[106] Pennsylvania includes IGCC-coal and coal bed methane and California includes wave energy.[107] Recently, the Florida Public Service Commission voted to order utilities to offer a variety of contractual pricing options for purchases from generating facilities using solid waste and "vegetable matter," among other renewable sources.[108] Fort Collins, Colorado has a goal that does not specify renewable fuel types.[109]

Ultimately, what the states, utilities, and local municipalities know, and incorporate into their assessments of "eligible" renewables, is that in some areas, certain renewable resources will not be feasible. As a U.S. Government Accountability Office (GAO) report noted, even taking into account all available federal and state incentives, improvements in technology and rising natural gas costs, "wind power will continue to be too expensive to compete with fossil-fuel generation in parts of the country with poor wind resources."[110]

### *E. Flexibility With Respect to Other Program Components*

1. RECs - Many RPS and other renewable programs include RECs in their portfolio standards.[111] As noted, *supra* at Part III.B, a REC is separate from the actual energy produced; rather, it is a measure of the non-energy attributes associated with a specific unit of renewable-generated energy. As is the case with other elements of renewable programs, there is no consistent treatment of trading or selling RECs, or even whether or not they are eligible to satisfy the renewable goal. Interestingly, California, with the most aggressive RPS, as discussed *supra* at Part III.B, remains on the fence about including RECs in its goal. Some states, such as Maryland, require that REC trading systems will conform to regional system procedures. Maryland requires that its RPS uses a

105. *See* TEXAS STUDY, *supra* note 82, at 16.

106. *See* MD. CODE ANN., [PUB. UTIL. COS.] § 7-701 (West 2006).

107. *See* Final Rulemaking, Re Net Metering for Customer-generators Pursuant to Section 5 of the Alternative Energy Portfolio Standards Act 73 P.S. § 1648.5, L-00050174 (June 22, 2006), *available at* www.puc.state.pa.us/PcDocs/614223.doc.

108. *See* Press Release, State of Florida Pub. Serv. Comm'n, Florida Public Service Commission Gives Boost to Renewable Energy Generation, (May 16, 2006), *available at* http://www.floridapsc.com/general/news/pressrelease.cfm?release=88.

109. *See* Colorado Fort Collins – Electric Energy Supply Policy, http://www.dsireusa.org/library/includes/incentivesearch.cfm?Incentive_Code=CO15R&state=CO&currentpageid=2&search=State&EE=1&RE=1 (last visited Aug. 28, 2006).

110. U.S. GOVERNMENT ACCOUNTABILITY OFFICE, RENEWABLE ENERGY: WIND POWER'S CONTRIBUTION TO ELECTRIC POWER GENERATION AND IMPACT ON FARMS AND RURAL COMMUNITIES 20 (2004) [hereinafter GAO WIND REPORT].

111. *See*, *e.g.*, Montana - Renewables Portfolio Standard, *available at* http://www.dsireusa.org/library/includes/printincentive.cfm?incentive_code=MT11R; Nevada – Energy Portfolio Standard, *available at* http://www.dsireusa.org/library/includes/printincentive.cfm?incentive_code=NV01R (last visited Aug. 28, 2006).

tracking system that is consistent with the trading system developed by the regional PJM Interconnection, Inc. to create, track, and record RECs on a monthly basis within the PJM area.[112]

2. Existing Facilities - Some states, such as Maine and Maryland, crafted programs around existing renewable generation. Maine's RPS includes renewable qualifying facilities or "QFs" under Title II of PURPA.[113] Although Maryland's RPS regulations did not become effective until November 2005, Maryland permitted electricity suppliers to receive and accumulate RECs retroactively from January 1, 2004, (this practice expired at the end of May 2006).[114] Massachusetts has a "vintage waiver program" under which a portion of the output of otherwise qualifying renewable facilities installed prior to December 31, 1997, will be included in the standard.[115] In addition to fuel source, states have been more flexible as to the qualifying date of the renewable generation. S. Amdt. 791, like other proposals, limited renewable energy that qualified to meet the annual target to "new"—from facilities put in place after the date of enactment, and "incremental"—any energy generated at existing facilities but only at levels that were above the prior three years' annual production, with only incremental hydro resources being eligible.[116]

3. Compliance/Waivers - State, local, and utility renewable programs allow for extensions for compliance or waivers of specific provisions. Connecticut amended its statute to permit the Connecticut Department of Public Utility Control to give utilities an additional two years to meet a specific annual standard if the commission determined that the standard reasonably cannot be met.[117] Arizona Public Service received a waiver allowing it to meet a portion of its renewable requirement with geothermal, which was not, at that time, an eligible technology.[118] California has adopted flexible rules that permit utilities to meet a portion of the standard through the execution of renewable contracts for future delivery.[119] In 2005, Nevada passed legislation that increases the standard percentage but also permits RECs and savings resulting from energy

112. *See* PUB. SERV. COMM'N OF MD., RENEWABLE ENERGY PORTFOLIO STANDARD REPORT OF 2006 (Feb. 2006), http://www.psc.state.md.us/psc/Reports/Renewable PortfolioStandardReport_2006.pdf [hereinafter MD RPS REPORT 2006].

113. *See* Eligible Resource Portfolio Requirements, http://www.state.me.us/mpuc/doing_business/rules/part_3/ch-311.htm (last visited Aug. 28, 2006). *See also* 16 U.S.C. § 2611 (2000).

114. *See* MD RPS REPORT 2006, *supra* note 111.

115. *See* Policy Statement, Mass. Office of Consumer Affairs & Business Regulation Div. of Energy Res., RPS Eligibility of Retooled Biomass Plants (Oct. 27, 2005), http://www.mass.gov/doer/rps/rps-pol-stat-elig-biomass.pdf.

116. *See* S. Amendment 791, 109th Cong. § 271 (2005).

117. *See* 2003 Conn. Acts 135 (Reg. Sess.). Ironically, a few of the states that recently increased their goals for renewable energy also seem to be in jeopardy of chronic under-compliance. According to Dr. Wiser, Arizona, California, Massachusetts, and Nevada fall in to this category. *See* Dr. Ryan Wiser, Scientist, Lawrence Berkeley Nat'l Lab., Meeting Expectations: A Review of State Experience with RPS Policies (March 2006).

118. *See* Arizona - Environmental Portfolio Standards, http://www.dsireusa.org/library/includes/incentivesearch.cfm?Incentive_Code=AZ03R&state=AZ&currentpageid=2&search=State&EE=1&RE=1 (last visited Aug. 28, 2006).

119. *See* SNL ENERGY ELECTRICITY REPORT, *supra* note 94, at 31.

efficiency measures to meet the threshold.[120] Similarly, Hawaii and Pennsylvania standards include demand-side management savings.[121]

### *F. Flexibility in Learning from Others*

States, municipalities, and utilities that are considering adopting a renewable program are best served if they have the ability to incorporate elements of others' designs that will work for their regions, their citizens, and their consumers. One such example of this process is a report published in 2001 by the Maryland Public Service Commission, assessing the feasibility of a Maryland RPS, which examined design elements and how existing state programs managed them.[122] Similarly, in 2002, the Florida Public Service Commission and the Department of Environmental Protection held a series of workshops and issued a report on the use of renewable resources within Florida.[123] The Florida Report also examined existing state initiatives that Florida could adopt.[124] Incorporating best practices is essential in crafting a program that promotes renewable energy in a cost-effective and reliable manner. In addition to addressing costs and transmission constraints, states, municipalities, and utilities designing renewable programs should consider the down-side of carve-outs for more expensive technologies.[125] Likewise, purchasing out-of-state renewable generation (as is permitted under Connecticut's plan) or RECs when they cost less than in-state resources are ways to support the environmental benefits of renewable energy while keeping costs to consumers down.[126]

Renewable energy can be extremely beneficial to rural communities. If structured properly, renewable programs can provide new income for the farmers, either in the context of providing fuel, such as biomass, or as generators

120. *See* NEV. REV. STAT. §§ 704.7801-704.7828 (2005).

121. *See* Pennsylvania - Alternative Energy Portfolio Standard, http://www.dsireusa.org/library/includes/incentivesearch.cfm?Incentive_Code=PA06R&state=PA&currentpageid=2&search=State&EE=1&RE=1 (last visited Aug. 28, 2006).

122. *See* PUBLIC SERVICE COMMISSION OF MARYLAND, RENEWABLE PORTFOLIO STANDARD REPORT (2001) *available at* www.psc.state.md.us/psc/Reports/RenewablePortfolioStandardReport.pdf.

123. *See* FLORIDA PUBLIC SERVICE COMMISSION AND THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, AN ASSESSMENT OF RENEWABLE ELECTRIC GENERATING TECHNOLOGIES FOR FLORIDA (2003) [hereinafter FLORIDA REPORT].

124. *Id.*

125. Several states established tiers of renewable sources, requiring certain percentages from each under the portfolio standards. *See, e.g.*, California Energy Comm'n – Renewables Portfolio Standard, http://www.energy.ca.gov/ portfolio/index.html (last visited Aug. 28, 2006). *See also* Connecticut – Renewables Portfolio Standard, http://www.dsireusa.org/library/includes/incentivesearch.cfm?Incentive_Code=CT04R&state=CT&currentpageid=2&search=State&EE=1&RE=1 (last visited Aug. 28, 2006); Delaware – Renewables Portfolio Standard, http://www.dsireusa.org/library/includes/incentivesearch.cfm?Incentive_Code=DE06R&state=DE&currentpageid=2&search=State&EE=1&RE=1 (last visited Aug. 28, 2006). For example, Arizona requires solar power to make up 60% of the portfolio during 2004-2012. *See* discussion *supra* Part IV (Arizona Public Service received a waiver when it could not achieve the threshold).

126. *See* discussion *supra* Part IV (states such as Maryland are considering adopting the PJM tracking/crediting system for RECs within the PJM region). *See, e.g.*, Maryland - Renewable Portfolio Standard, And Credit Trading, http://www.dsireusa.org/library/includes/incentivesearch.cfm?Incentive_Code=MD05R&state=MD&currentpageid=2&search=State&EE=1&RE=1 (last visited Aug. 28, 2006).

or site lessors/owners, in the case of wind facilities.[127] Rural areas also benefit from renewables under programs such as the farm-based renewable energy initiatives established in the Farm Security and Rural Investment Act of 2002.[128] These benefits inure to the communities as well as the individual consumer: school districts in Pecos County, Texas, received $5 million in property tax revenues from local projects.[129] Rural electric cooperatives have embraced renewable energy programs. Currently, approximately 450 co-ops offer some form of renewables to their members.[130] Co-op green power comes from solar, wind, low-impact hydroelectric, and biomass renewable sources.[131] Under appropriate guidelines, rural areas can and do benefit from renewable energy. Conversely, if structured improperly, renewables can create significant cross-subsidization problems among rural neighbors, where one customer is forced to pay additional rates for higher-priced power generated by a fellow customer.

## V. CONCLUSION...FOR NOW?

As it turns out, EPAct '05 did not end or even put on hold the debate over a Federal RPS.[132] On May 4, 2006, a bill entitled the "Enhanced Energy Security Act of 2006" was introduced by Sen. Bingaman in the Senate and referred to the Senate Committee on Energy and Natural Resources. S. 2747 includes a mandatory federal RPS with the following milestones for utility portfolios: 2.25% by 2008 up to 10% from 2020 through 2030. Also, on May 17, 2006, a bill proponents touted as a bill for U.S. "energy independence" was introduced in the Senate. The "Clean EDGE Act of 2006" (S. 2829), which was introduced by Sen. Cantwell (D-WA), includes, among other measures, a 10% federally-mandate RPS.[133] Sen. Domenici (R-NM), Chairman of the Senate Energy and Natural Resources Committee, has expressed doubts about the future of S. 2829.[134]

In all of the debates over the past ten years, Congress was right: renewables constitute an important component in meeting our nation's power needs, one which is valuable in protecting the environment and helps decrease our dependence on foreign oil. Nonetheless, if renewable programs really are to be

---

127. *See* AMERICAN WIND ENERGY ASSOCIATION, THE RENEWABLES PORTFOLIO STANDARD: HOW IT WORKS AND WHY IT'S NEEDED (Oct. 2005).

128. *See* Farm Security and Rural Investment Act, Pub. L. No. 107-171, 116 Stat. 134 (2002). *See also* GAO WIND REPORT, *supra* note 109, tbl. 6, at 50 (citing NREL and USDA and showing that in 2003 USDA grant assistance for renewable energy and energy efficiency programs totaled $21.7 million).

129. *See* GAO WIND REPORT, *supra* note 109.

130. *See* NRECA WHITE PAPER ON RENEWABLE ENERGY, *supra* note 62.

131. For details on cooperatives, *see* NRECA's Electric Cooperatives and Alternative Energy, A Snapshot, http://www.nreca.coop/Documents/PublicPolicy/alternativenergy.pdf. *See also* NRECA WHITE PAPER ON RENEWABLE ENERGY, *supra* note 62.

132. The author cautions that issues and developments revolving around or concerning renewable energy, including RPSs, are continuously evolving. In addition to the limited scope in subject matter, this article does not address developments occurring after July 2006.

133. *See* Daniel Whitten, *House Republicans seek deal on bill to expand refining capacity in U.S.*, INSIDE ENERGY, May 22, 2006.

134. *Id.* In addition to S. 2747 and S. 2829, the following bills introduced in 2006 contain a RPS: S. 2571, 105th Cong. (2006); S. 3698, 105th Cong. (2006); H.R. 5331, 105th Cong. (2006); H.R. 5642, 105th Cong. (2006); H.R. 5926, 105th Cong. (2006); and H.R. 5927, 105th Cong. (2006).

beneficial, and not just to "special interests" in the industry, then they must be considered in the context of how best to provide safe, reliable, and affordable power. Moreover, there must be the flexibility to consider and reconsider mechanisms within renewable programs that take into account regional, state, and even local differences.

The role of the state, utility, or cooperative is to ensure that a renewable program incorporates all components that are necessary to produce renewable energy that is cost-effective and reliable. The challenge is to find the balance between realizing the promises of renewable energy while protecting consumers and communities from adverse impacts. A renewable program can fall into one of two categories: "[e]legant, cost effective, flexible policy" or "[p]oorly designed, ineffective, or costly . . . ."[135] Regional consortiums, states, local municipalities, and individual utilities are best positioned to evaluate the panoply of renewable data, in conjunction with their policy objectives, to establish programs that work for their citizens and consumers. At the end of the day, the goal of any renewable program should be to provide cleaner, reasonably-priced and reliable electric service. Mandates such as a federal RPS will not achieve these goals.

135. Dr. Ryan Wiser, Scientist, Lawrence Berkeley Nat'l Lab., Meeting Expectations: A Review of State Experience with RPS Policies (March 2006).