AN OVERVIEW OF RENEWABLE ENERGY PORTFOLIO STANDARDS IN THE WEST

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AN OVERVIEW OF RENEWABLE PORTFOLIO STANDARDS IN THE WEST[1]

One of the most significant new policies affecting the U.S. energy industry involves state initiatives that require utilities to greatly increase their reliance on renewable energy. Most of these programs have taken the form of renewable portfolio standards ("RPS"). Virtually all RPS programs reflect the view that renewable energy development and use must be actively encouraged. The policy change represented by these RPS programs is significant because although renewable energy has been used for many years, policymakers have concluded that increased market penetration by renewable resources is needed to not only promote adequate electricity supplies but to advance a number of other public policy goals. As a result, in many states it is no longer sufficient that utilities or other retail suppliers obtain sufficient electricity to meet customer loads; rather, legislatures and regulatory commissions are playing an active role in deciding which types of generation will be developed or purchased by the utility. Although it is clear that rising oil and natural gas prices are a major driver for this move to renewable energy, certainly supply security, environmental considerations and economic development goals are also important considerations. The results of these new RPS initiatives will not be fully known for another 5 to 10 years, but current programs suggest that in many states and regions, and in particular in much of the West, renewable energy is likely to move from a minor energy source to that of a major player in the energy field. Further, as these states' total resource mix becomes more diversified and locally based, utility operations are likely to change as well.

The following overview of RPS programs in the West is intended to describe the major features of each such program. Please note that this is just a summary and the programs discussed are subject to change. Thus, the best source of information will be current state statutes and commission rules.

Renewable portfolio standards mandate the amount and type of renewable energy that must be purchased or produced by an electric utility, or other retail supplier, as well as the deadlines for meeting these requirements. The goals of RPS programs are varied, including the provision of environmental benefits, supply diversity, technology advancement, economic development and energy supply security. Nationally, twenty-one states and the District of Columbia have enacted an RPS program, including the following seven states in the West: Arizona, California, Colorado, New Mexico, Nevada, Montana and Texas.[2] Additionally, two municipalities in Western states, Fort Collins, Colorado, and Austin, Texas, have established standards for renewable energy production and sales in the form of an RPS. Specific characteristics of an RPS program vary among states, such as which resources are eligible for the "renewable" designation, the quantity or percentage of renewable energy that must be acquired and how the RPS can be satisfied.

Most RPS programs differ from the renewable energy programs that were developed following enactment of the Public Utility Regulatory Policies Act of 1978.

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[1] The webpages of the Database of State Incentives for Renewable Energy (http://www.dsireusa.org/) and the Renewable Energy Policy Project (http://www.repp.org/) served as invaluable foundations for the compilation of data contained in this paper.

[2] Hawaii also has an RPS program that is not discussed in this paper.

Under those early renewable programs, the states often mandated that certain types of renewable energy technologies had to be used and established a set "avoided cost" pricing scheme that applied to all eligible projects. In contrast, most RPS programs today are market-oriented. The RPS standards establish the amount and type of renewable energy that is permitted or desired, but the market dictates which technologies will be implemented and often the price to be paid. Although some RPS programs provide incentives for specific types of renewables, the actual project selected for development or purchase, even within the preferred class, will generally be based on cost.

A. Renewable Energy Targets

The goal of an RPS is to have at least a minimum percentage of the energy consumed in a state generated by renewable energy sources. Renewable energy targets consist of three essential parts: (i) the types of renewable energy that must or may be acquired, (ii) the timetable for compliance, and (iii) the amount of renewable energy required. The start date for an RPS program is generally set one to three years after the RPS program is enacted into law, and the end date generally occurs after a period when it is assumed that the policy has sufficiently encouraged renewable energy development. For many states the renewable energy acquisition target must be maintained on an ongoing basis. Some states, such as Illinois and California, have escalated these compliance dates to reflect a growing public support for renewable energy. Certainly increasing fossil fuel prices have also encouraged many states to revisit their RPS programs to make them more aggressive, subject to tighter requirements or under shortened compliance deadlines.

RPS programs differ with respect to establishing the amount of renewable energy required for compliance. Some programs, such as the Texas RPS program,[3] define compliance according to a fixed amount of electricity generated, whereas other RPS programs, such as California's,[4] define compliance according to a percentage of total utility electricity sales. The former type of RPS program establishes a clearly defined goal, such as 1,000 MWs of renewable energy capacity developed by a certain date. The latter type of RPS program varies with increases or decreases in total electricity sales.

With the exception of the Maine RPS program,[5] all state RPS programs increase the targeted amount of renewable energy over time, which provides utilities with both intermediate and long-term goals.

B. Eligible Renewable Energy Resources

States vary in the types of renewable energy resources that are eligible for inclusion in RPS programs. An RPS may specify a broad range of eligible renewable energy sources to encourage a variety of renewable energy technologies. Alternatively, an RPS program may exclude certain renewable energy technologies, either to encourage

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[3] 16 Tex. Admin. Code § 25.173(a).
[4] Cal. Pub. Utils. Code § 399.15(b)(1).
[5] Me. Rev. Stat. Ann. tit. 35-A, § 3210(3).

the development of other renewable energy technologies or because certain types of projects are seen as having adverse environmental effects (e.g., large hydro).

Additionally, an RPS program can be designed to encourage certain types of renewable energy technologies, by assigning more value to the energy produced from such technologies, or to discourage certain types of renewable energy technologies by assigning less value to the energy they produce. Many states and municipalities encourage power generation from particular sources by awarding extra credit (e.g., 1 MW of energy produced = 1.5 MW of credit towards meeting the RPS) for power generated from preferred sources. For example, the New Mexico RPS awards double credit for power generated from biomass, landfill gas, fuel cells, and geothermal sources and triple credit for solar power.[6] The Nevada RPS awards a 2.4 multiplier for customer-sited photovoltaics[7] and a 0.7 multiplier for certain types of customer-sited waste tire facilities.[8]

Many states also have additional standards for certain types of power, most often for solar generation. For example, the Colorado RPS stipulates that by 2015, 10 percent of all energy sold within the state must come from renewable sources and 4 percent of this amount must come from solar generation (0.004 percent of total energy).[9]

Solar, biomass, and wind are the most common energy sources recognized as eligible renewable resources under the RPS statutes and programs. Other commonly eligible sources include methane gas from landfills, ocean power (including thermal energy and mechanical energy from tides and waves), hydropower, geothermal energy and fuel cells. Many states only consider hydro power to be a renewable energy source if it is small (energy output, measured in megawatts), because while hydropower is clearly a renewable resource, dams can have adverse environmental impacts such as restricting fish movement and altering habitats. Likewise, for fuel cells to be considered a renewable source of energy, many states require that the hydrogen must be generated using renewable sources.

Some RPS programs require utilities to utilize renewable energy generated within the state or region. Such requirements encourage the development of renewable energy generation within the jurisdiction but make compliance for jurisdictional utilities more difficult. Geographic restrictions also raise legal issues if they act to restrict the movement of electricity across state lines. It is generally easier for utilities to satisfy RPS requirements if they are allowed to import renewable energy production from outside the applicable RPS jurisdiction.

Almost all RPS programs have some form of delivery requirement. That is, for renewable projects located outside the state to qualify for the RPS program, the electricity must be delivered into the state.

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[6] N.M. Code R. 17 § 8.572.14(B).
[7] Nev. Rev. Stat. § 704.7823.
[8] Nev. Rev. Stat. § 704.7823.
[9] Colo. Rev. Stat. § 40-2-124(1)(C).

Finally, most states do not provide financial incentives for existing renewable generation that is already under contract to a utility in the state. Many states treat such existing renewable generation as a baseline from which the utility must build.

C. Categories of Utilities Affected

RPS programs vary in the types of utilities or other retail suppliers affected. In all states with RPS programs, regulated investor-owned utilities must meet RPS requirements. Many state RPS programs, such as those in Arizona,[10] Nevada,[11] and New Mexico[12] specifically exempt municipal utilities. In addition, many states, including Nevada[13] and New Mexico,[14] exempt cooperative power companies. Some states, such as California, have looked for ways to encourage municipalities and other unregulated suppliers to participate in RPS programs.

D. Compliance Mechanisms

States adopting RPS programs have developed varying compliance mechanisms. The most basic compliance mechanism is to allow the affected utility to both purchase and self-generate renewable energy. Even some states that have previously restricted utility ownership of electric generation have allowed utilities to develop and use their own renewable energy projects (e.g., California).

1. Renewable Energy Credits

A growing number of RPS programs allow utilities to satisfy their renewable energy acquisition targets by obtaining tradable renewable energy credits ("REC"). In general terms, a REC represents the actual production of electricity from a renewable energy facility, and one REC is usually equal to one megawatt hour of electricity production from an eligible renewable facility.

Many states allow the use of unbundled RECs, that is, an REC that need not be purchased with the renewable electricity that produced that REC. Some state RPS policies are supported by electronic tracking systems and unbundled RECs.[15] Nine states, including Arizona, Nevada, New Mexico, Colorado and Montana,[16] allow unbundled

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[10] Ariz. Admin. Code § R14-2-1601(23) (definition of "Load-Serving Entity" does not include a category of municipal retail providers).

[11] Nev. Rev. Stat. § 704.7808(3)(a) (excluding the state or an agency or instrumentality of this state).

[12] N.M. Rev. Stat. Ann. § 62-3-3(E) (excluding municipalities from the definition of a person, and thus a public utility, unless such municipality has elected to come within the terms of the Public Utility Act).

[13] Nev. Rev. Stat. § 704.7808(3)(a) (excluding rural electric cooperatives).

[14] N.M. Rev. Stat. Ann. § 62-16-3(B) (excluding rural electric cooperatives).

[15] The RPS programs supported by electronic tracking systems and unbundled RECs include Massachusetts, Maine, Connecticut, Rhode Island and Texas. See KEMA-XENERGY Team, "Preliminary Stakeholder Evaluation of the California Renewables Portfolio Standard" at 40, 60 n.29 (June 2005) (hereinafter the "CEC Report").

[16] The four other RPS programs that allow unbundled RECs with electronic tracking systems under development are District of Columbia, Maryland, New Jersey and Pennsylvania.

RECs and have electronic tracking systems under development.[17] Two states, Wisconsin and New York, allow unbundled RECs and use contract-path accounting to verify REC transactions.[18] Four states, including California,[19] require the purchase of bundled RECs; that is, the REC must be purchased with the renewable electricity that produced such REC.[20] California is the only state with competitive energy service providers that does not allow the use of unbundled RECs.[21]

Many RPS programs impose certain restrictions on the eligibility of unbundled RECs from out-of-state renewable energy generators. Four states, including Arizona for non-solar resources,[22] strictly require that eligible renewable generators be located within the state's geographic boundaries.[23] Two states, Nevada[24] and Texas,[25] require out-of-state generators to effectively have in-state interconnections.[26] In the case of Nevada, the interconnection requirement acts to preclude the eligibility of renewable facilities located outside of the state. A number of states, including California, Colorado, Arizona, New Mexico and Montana,[27] require electricity delivery into the state or the larger region in which the state is located (often the relevant Independent System Operator).[28]

Three states, Arizona, Colorado and New Mexico, have specific incentives to encourage in-state generation. Arizona encourages in-state generation by granting credit multipliers for in-state solar generation.[29] Colorado encourages in-state generation by granting credit multipliers for in-state generation without reference to a specified technology.[30] The New Mexico RPS states a preference for in-state generation.[31] A number of other states, including California, provide project development incentives that have the effect of encouraging developers to build renewable generation facilities in the state.

Finally, in at least one instance (New York), intermittent generation such as wind power is not required to deliver electricity on an hour-to-hour basis to an in-region hub but is instead allowed to deliver with a "monthly matching" requirement, effectively allowing out-of-state RECs to be bundled with system power over the border.[32]

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[17] CEC Report at 40, 60 n.30.

[18] *Id.* at 40, 60 n.30.

[19] The three other RPS programs that require the purchase of bundled RECs are Hawaii , Iowa and Minnesota.

[20] CEC Report at 40, 60 n.31.

[21] *Id.* at 40, 60 n.32.

[22] The three other RPS programs that require the purchase of RECs from in-state generators are Hawaii , Iowa and Minnesota.

[23] CEC Report at 41, 60 n.33.

[24] Out-of-state facilities must have a dedicated transmission line to the state shared by at most one other party.

[25] Out-of-state facilities must have a dedicated transmission line to the state.

[26] CEC Report at 41, 60 n.34.

[27] Others include Connecticut, District of Columbia, Maine, Maryland, Massachusetts, Minnesota, New Jersey, New York, Pennsylvania, Rhode Island and Wisconsin.

[28] CEC Report at 41, 60 n.36.

[29] Ariz. Admin. Code § R14-2-1618(C)(2)(b).

[30] Colo. Rev. Stat. § 40-2-124(1)(C)(III).

[31] N.M. Code R.17 § 9.572.10.

[32] CEC Report at 41.

2. REC Trading

A few states, such as California, Nevada, New Mexico and Texas, permit REC trading within their jurisdictions but may not have trading programs in place. On the East Coast, several states allow credit trading within regional systems, such as the NEPOOL Generation Information System.[33] Although no regional trading system exists in the West for trading renewable energy credits, the Western Governors' Association has investigated the creation of a regional renewable energy credit system to facilitate trading among the 18 member states.[34]

Some credit trading programs have introduced compliance or grace periods that allow sellers more time to fulfill their mandates or to sell extra credits they may have accumulated. Some states allow credit banking or credit borrowing.

E. Enforcement

States with an RPS often include penalties for utilities or other service providers that do not comply with the RPS. One common penalty is an Alternative Compliance Payment ("ACP"), which is a charge per unit of energy that is applied to the deficiency amount when a utility falls short of meeting its renewable energy acquisition requirement. For example, the Montana RPS imposes an ACP of $10 per MWh for any deficiency amount,[35] and Texas assesses penalties equal to the lesser of (i) $50 per MWh or (ii) upon presentation of suitable evidence of market value by the competitive retailer, 200 percent of the average market value of credits for that compliance period.[36]

F. Green Pricing

A number of states have implemented programs under which consumers can agree to pay an extra charge in exchange for an assurance that these funds will be used to purchase or acquire renewable energy. These green pricing programs are generally voluntary, and some utilities have implemented such programs on their own, either in lieu of or in addition to a state RPS program.

II. State Renewable Portfolio Standards

A. Arizona

Arizona has adopted an RPS program and uses a systems benefit charge to fund the program. The RPS sets the minimum renewable energy acquisition requirement, and the costs incurred by utilities and other electricity providers to meet this standard are recovered through an existing systems benefit charge and from an additional portfolio standard charge. In May 2000, the Arizona Corporation Commission approved an RPS

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[33] The use of the GIS system includes Connecticut, Maine and Massachusetts.

[34] *See* Western Governors' Association, Western Renewable Energy Generation Information Service <<http://http://www.westgov.org/wieb/wregis/>>.

[35] Mont. Senate Bill No. 415 at § 4(10).

[36] Tex. Admin. Code tit. 16, § 25.173(o)(2).

surcharge tariff to fund renewable energy programs under the RPS.[37] The surcharge also helps fund other programs, including low-income, demand-side management, consumer education, environmental, long-term research and development, nuclear fuel disposal, and nuclear decommissioning programs.

On August 10, 2005, the Arizona Corporation Commission voted 4-1 to approve an increase to the RPS that would require utilities that at least 15 percent of total energy sold from renewable sources by 2025.[38] Under the mandate, utilities also will face an annual review and possible sanctions for not achieving the toughened standards. The details regarding the increased minimum must be written and approved before the new standards take effect, the initiative will be funded by utilities and customers through a monthly charge of up to $2 for residential customers and $75 for businesses.[39] Included in the recently approved mandate are the following provisions:

(i) at least 15 percent of all energy must be drawn from renewable sources by 2025, but the Arizona Corporation Commission eliminated percentage set-asides for specific types of energy sources, such as solar, wind or biomass;

(ii) utilities will be subjected to an annual public review to assess such utilities' success at achieving clean-energy goals; and

(iii) a "distributed generation" rule will reward companies and homeowners who use solar or other renewable sources (up to 30% of the renewables' total funding from ratepayers will go to homes and businesses that generate their own electricity, ensuring at least some renewable energy is produced in Arizona).[40]

Oversight:	Arizona Corporation Commission
Applies to:	Utilities regulated by the Arizona Corporation Commission
Current Schedule:	15% by 2025
Eligible Technologies:	Solar Photovoltaic; Solar Thermal Electric; Solar Water Heating Systems; Solar Air Conditioning Systems; In-State Landfill Gas Generators; In-State Wind Generators; In-State Biomass Generators; Small Hydroelectric Generation; and Waste Generation

[37] *See* Ariz. Admin. Code § R14-2-1618; *see also In the Matter of the Generic Investifation of the Development of a Renewable Portfolio Standard as a Potential Part of the Retail Electric Competition Rules*, Decision No. 62506 Opinion and Order, Ariz Corp. Comm'n Docket No. E-00000A-99-0205 (May 4, 2000).

[38] Ken Alltucker, Ariz. Regulators Toughen Rules to Boost Supply of Clean Energy, The Arizona Republic (Aug. 11, 2005).

[39] *Id.*

[40] *Id.*

Eligibility Date: New solar resources and environmentally friendly renewable electricity technologies that were installed on or after January 1, 1997.

Out-of-State Generation: The only out-of-state generation that is eligible for the RPS program is solar energy delivered to the state.

Self-generation: Photovoltaic or solar thermal electric resources that are located on the consumer's premises will count toward the RPS and will be applied to the utility currently serving that consumer unless a different utility demonstrates that it is entitled to the credit.

Green Pricing: Electric generators located in Arizona that are included in any utility's Green Pricing program may be eligible. All Green Pricing programs must be reviewed and approved by the Utilities Division Director.

Certification: No specific provisions exist to create renewable energy certificates.

Funding: Part of the costs of the portfolio standard are covered through current System Benefits Charges, including a re-allocation of demand side management funding to portfolio uses. Additional portfolio standard costs are recovered by the Environmental Portfolio Surcharge on each customers' monthly bill. The Environmental Portfolio Surcharge is assessed monthly to all retail electric service. This monthly assessment is the lesser of $0.004988 per kWh or:

a. Residential Customers: $2.00 per service,
b. Non-Residential Customers: $75 per service,
c. Non-Residential Customers whose metered demand is 3,000 kW or more for 3 consecutive months: $222.00 per service.

In the case of unmetered services, the utility uses the lesser of (i) the load profile or otherwise estimated kWh required to provide the service in question; or (ii) the service's contract kWh, subject to the caps set forth above.

Flexibility: Any utility that produces or purchases any eligible kWh in excess of its annual portfolio requirements may save or bank those excess kWh for use or sale in future years.

In addition, a number of credit multipliers were available for new solar electric systems that were installed and

operating prior to December 31, 2003. Load-Serving Entities qualified for extra credits for 5 years following start-up of the solar system. All multipliers were additive, allowing a maximum combined extra credit multiplier of 2.0 in years 1997-2003, for equipment installed and manufactured in Arizona and either installed at customer premises or participating in approved solar incentive programs.

REC Trading: In-state REC trading permitted.

Website: http://www.cc.state.az.us/utility/electric/environmental.htm

Authority: ACC Decision 62506 (May 4, 2000)
http://www.cc.state.az.us/utility/electric/62506.pdf

Final Rulemaking for the Environmental Portfolio Standard
http://www.cc.state.az.us/utility/electric/R14-2-1618.htm

Environmental Portfolio Standard Developments
(Rules and Procedures)
http://www.cc.state.az.us/utility/electric/environmental.htm

B. California

Legislation enacting the California RPS, Senate Bill 1078 ("SB 1078"), became effective January 1, 2003. It requires affected utilities to increase their purchases of eligible renewable energy resources by at least one percent each year so that 20 percent of their total retail sales comes from renewable energy resources by 2017. The California *Energy Action Plan*[41] and the California Energy Commission's *Integrated Energy Policy Report*[42] have since expressed a state goal of accelerating implementation so the 20 percent goal will be met by 2010. The Governor has endorsed this accelerated schedule and has also set a goal for the state of achieving a 33-percent renewable energy share by 2020.[43] Legislation is pending in the California legislature (SB 107) that would codify the accelerated 2010 date.

Under the RPS program, utilities and other alternative providers are directed to contract with renewable generators based on a least-cost, best-fit analysis. This means that although contracting should be based on the least expensive renewable energy that is offered, other factors, such as renewable fuel diversity and environmental benefits, can be considered as well. Renewable energy is acquired through utility RFP solicitations and under long-term (e.g. 10-20 year) power purchase agreements.

The California Public Utilities Commission ("CPUC") has established the foundation of the RPS program for the state's three large investor-owned utilities (Pacific Gas and Electric, San Diego Gas & Electric and Southern California Edison) through the following orders:

(i) in Decision No. D.03-06-071, the CPUC established the basic structure of the RPS program, defined the approach to be used for utility solicitations and set compliance schedules, flexibility mechanisms and penalties for noncompliance;[44]

(ii) in Decision No. D.04-06-013, the CPUC (a) established methods for ranking bids by renewable generators that respond to utility requests for proposals (such rankings include total bid price adjusted by expected transmission costs and other enumerated factors) and (b) directed Pacific Gas and Electric, San Diego Gas & Electric and Southern California

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[41] California Energy Resources Conservation and Development Commission, California Public Utilities Commission, and California Consumer Power and Conservation Financing Authority, *State of California Energy Action Plan* at 5-6 (May 8, 2003).

[42] California Energy Resources Conservation and Development Commission, *2003 Integrated Energy Policy Report* at 13 (Dec. 2003).

[43] PG&E Signs to Buy 75 MW of Wind Power, Megawatt Daily at 7 (June 23, 2005).

[44] *See Order Instituting Rulemaking to Establish Policies and Cost Recovery Mechanisms for Generation Procurement and Renewable Resource Development*, Order Initiating Implementation of the Senate Bill 1078 Renewable Portfolio Standard Program, Rulemaking 01-10-024 (June 19, 2003) and *Order Instituting Rulemaking to Establish Policies and Cost Recovery Mechanisms for Generation Procurement and Renewable Resource Development*, Order Modifying Decision (D.) 03-06-071 and Denying Rehearing of the Decision, as Modified, Rulemaking 01-10-024 (Dec. 18, 2003).

Edison to submit annual renewable energy procurement plans and RPS compliance reports;[45]

(iii) in Decision No. D.04-06-014, the CPUC established a methodology for establishing the market price referent, which is the calculation of a surrogate price that represents the cost of acquiring non-renewable generation;[46]

(iv) in Decision No. D.04-06-015, the CPUC adopted standard contract terms and conditions that govern power purchase agreements signed under the RPS;[47]

(v) in Decision No. D.04-07-029, the CPUC defined an approach for evaluating bids under a least-cost, best-fit framework;[48] and

(vi) in Decision No. D.05-05-011, the CPUC issued a decision clarifying the participation of renewable distributed generation under the California RPS.[49]

As specified in SB 1078, the California Energy Commission ("CEC") has responsibility for renewable resource eligibility determinations, administration of supplemental energy payments, and the establishment of a regional REC tracking and accounting system. In implementing these duties, the CEC has issued a number of policy decisions and published several related guidebooks: (i) the Renewable Portfolio Standard Eligibility Guidebook, (ii) the New Renewable Facilities Program Guidebook and (iii) the Overall Program Guidebook for the Renewable Energy Program. Additionally, the CEC has led the effort to develop the Western Renewable Energy Generation Information System ("WREGIS"), which seeks to serve as a platform for REC trading by 18 Western states.

Since enactment of the California RPS, all three regulated investor-owned utilities in the state have reportedly increased the percentage of renewable energy in their portfolios:

1. Pacific Gas and Electric ("PG&E") increased its renewable energy purchases from 10.4 percent in 2002 to 12.4 percent in 2003, dropping to 11.7 percent in 2004 (in part due to a poor hydro year), through (i) purchases under its 2002 interim renewable energy solicitation,

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[45] *See Order Instituting Investigation into Implementation of Assembly Bill 970 Regarding the Identification of Electric Transmission and Distribution Constraints, Actions to Resolve Those Constraints, and Related Matters Affecting the Reliability of Electric Supply*, Interim Opinion Adopting Methodology for Consideration of Transmission Costs in RPS Procurement, Investigation 00-11-001 (June 14, 2004).

[46] *See Order Instituting Rulemaking to Implement the California Renewables Portfolio Standard Program*, Opinion Adopting Standard Contract Terms and Conditions, Rulemaking 04-04-026 (June 9, 2004).

[47] *See Order Instituting Rulemaking to Implement the California Renewables Portfolio Standard Program*, Opinion Adopting Market Price Referent Methodology, Rulemaking 04-04-026 (June 9, 2004).

[48] *See Order Instituting Rulemaking to Implement the California Renewables Portfolio Standard Program*, Opinion Adopting Criteria for the Selection Least-Cost and Best-Fit Renewable Resources, Rulemaking 04-04-026 (July 8, 2004).

[49] Opinion Clarifying Participation of Renewable Distributed Generation in the Renewable Portfolio Standards Program, Rulemaking 04-04-026 (May 5, 2005).

(ii) bilateral negotiations with several existing biomass projects, and (iii) with two wind projects seeking to repower their facilities. Nonetheless, PG&E has lagged behind the one-percent-per-year targets and is currently carrying a significant deficit into the 2005 compliance year.[50] On July 21, 2005, the CPUC approved the following three renewable contracts for PG&E as part of the RPS program: (i) a twenty-year contract with FPL Montezuma for a wind project near Solano, California, with a 32.4 MW capacity; (ii) a fifteen-year contract with Buena Vista for a wind project near Altamont Pass, California, with a capacity between 28 and 43 MW; and (iii) a twenty-year contract with Pacific Renewable for a wind project near Lompoc, California, with a capacity of 82.5 MW.[51] On July 25, 2005, PG&E announced that it expects to issue a Request for Offers on August 4th, to solicit renewable energy on behalf of its electric customers with the goal of entering into contracts by the end of the year.[52]. In 2004, PG&E physically purchased just 30 percent of its incremental renewable procurement target for that year. In April 2005, PG&E filed with the California Public Utilities Commission three new wind power contracts, with a total capacity of 142 to 158 MW and aggregate deliveries of 490 gigawatt-hours (GWh) per year (representing about 70 percent of PG&E's 2004 incremental procurement target)

2. Southern California Edison ("SCE") was heavily invested in renewable energy even before the establishment of the California RPS. Nonetheless, SCE has reportedly increased its renewable energy purchases from 17 percent in 2002 to 18.2 percent in 2004.[53] On June 30, 2005, the CPUC approved six new long-term contracts between SCE and renewable energy projects that will add between 141 and 427 MW to SCE's renewable power portfolio. Five of the contracts are anticipated to result in the construction of new renewable generation capacity, and the sixth will significantly expand an existing facility.[54] On July 21, 2005, the CPUC approved contracts for SCE to re-power four existing wind power facilities with the following parties: (i) CTV Power for a wind project near Tehachapi, California, with 14 MW capacity; (ii) Windland, Inc. for a wind project near Tehachapi, California, with 8 MW capacity; (iii) Karen Windfarm for a wind project near San Gorgonio, California, with 11.66

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[50] CEC Report at 1-2.

[51] *See Order Instituting Rulemaking to Implement the California Renewables Portfolio Standard Program*, Order Approving Procurement Plans and Requests for Offers for 2005 RPS Solicitations, Rulemaking 04-04-026 (July 21, 2005).

[52] Pacific Gas and Electric Company Press Release, "Pacific Gas and Electric Company to Purchase Renewable Energy to Meet Customers' Needs" (July 25, 2005).

[53] CEC Report at 1.

[54] Southern California Edison Press Release, "California Regulators Approve Six New Edison Contracts with Renewable Power Providers" (June 30, 2005).

MW capacity; and (iv) Coram Energy for a wind project near Tehachapi, California, with 3 MW capacity.[55]

3. San Diego Gas & Electric ("SDG&E") had the farthest to go to meet the California RPS, with just one percent of its electricity supply coming from eligible renewable sources in 2002. Since that time, SDG&E has signed renewable energy contracts totaling approximately 275 MW of capacity, and 4.5 percent of the utility's retail sales in 2004 were from renewable energy sources.[56]

Oversight:	California Public Utilities Commission and California Energy Commission
Applies to:	Retail sellers, which include electrical corporations, community choice aggregators, and electric service providers. Corporations or persons employing cogeneration technology, the Department of Water Resources, and local publicly owned electrical utilities are exempt from the RPS requirements.
Effective Date:	September 12, 2002
Goal:	20 percent
Deadline:	2010
Schedule:	5 percent in 2002, increasing to 20 percent by the end of 2010
Eligible Renewables:	Fuels and technologies eligible under the California RPS are defined in four categories: (i) Facilities meeting the definition of "in-state renewable electricity generation technology" as defined in California Public Utilities Commission Code 383.5. Specifically: • Biomass[57] • Solar thermal • Photovoltaic • Wind

[55] *See Order Instituting Rulemaking to Implement the California Renewables Portfolio Standard Program*, Order Approving Procurement Plans and Requests for Offers for 2005 RPS Solicitations, Rulemaking 04-04-026 (July 21, 2005).

[56] CEC Report at 1.

[57] Biomass not meeting the requirements of 383.5(d)(6) as specified in SB 1038 is also not eligible for supplemental funding.

- Geothermal
- Small hydropower (30 MW or less)
- Ocean wave, ocean thermal, or tidal current
- Waste tire
- Digester gas
- Landfill gas
- Municipal solid waste conversion[58]

(ii) A geothermal generation facility originally commencing operation prior to September 26, 1996

(iii) Small hydroelectric generating facility of 30 megawatts or less placed in service before September 12, 2002. A new hydroelectric facility is not an eligible renewable energy resource if it will require a new or increased appropriation or diversion of water

(iv) Municipal solid waste combustion located in Stanislaus County and operational prior to September 26, 1996

Eligibility Date: Eligible facilities placed in operation after September 26, 1996, and facilities operational prior to that date that were qualifying small power production facilities under CFR Title 18 either located in California, or that began selling electricity to a California electrical corporation prior to September 26, 1996, under a Standard Offer Power Purchase Agreement authorized by the California Energy Commission. Certain new hydropower facilities are not eligible.

Out-of-State Generation: Out-of-state facilities are eligible under the RPS if the generation is delivered into California.

Self-generation: RPS credit for customer "behind-the-meter" distributed generation has not yet been addressed.

Green Pricing: Eligibility of power sold under green pricing contracts has not yet been addressed.

[58] Municipal solid waste conversion is allowed, but municipal solid waste combustion is not allowed. Solid waste conversion means a technology that uses a noncombustion thermal process to convert solid waste to a clean burning fuel for generating electricity. Facilities engaging in the combustion of municipal solid waste or tires are not eligible for receipt of RPS supplemental funding for above-market costs. However, municipal solid waste combustion located in Stanislaus County and operational prior to September 26, 1996, is allowed.

Certification:

The California Energy Commission certifies eligible renewable energy resources and designs and implements an accounting system to verify compliance with the RPS by retail sellers and to ensure that renewable energy output is counted only once.

Funding:

The CPUC provides supplemental energy payments from funds in the New Renewable Resources Account in the Renewable Resource Trust Fund to eligible renewable energy resources to cover any above-market costs of renewable energy (e.g., contract costs in excess of the market price referent). Indirect costs associated with the purchase of eligible renewable energy resources is not eligible for supplemental energy payments, but is recoverable by the utility in rates, if authorized by the CPUC.

Through 2012, the Renewable Resource Trust Fund is capitalized at $135 million per year. At least fifty one and one-half percent (51.5 percent) of these funds go into the New Renewable Resources Account, which will be used to offset above-market costs of RPS compliance.

Cost reimbursement under the RPS is limited by the quantity of funds in the New Renewable Resources Account. Above-market costs claimed by electricity providers are required to be just and reasonable. The Renewable Resource Trust Fund is funded by a non-bypassable ratepayer charge of $0.002/kWh - $0.003/kWh on retail sales. Actual amount varies by utility. Indirect costs of RPS compliance may be recovered through the rate base if approved by the CPUC.

Flexibility:

If a utility fails to procure sufficient eligible renewable energy resources in a given year to meet the RPS target, the company must procure additional eligible renewable energy resources in subsequent years to compensate for the shortfall so long as sufficient funds are made available from the state New Renewable Resources Account to cover the above-market costs of eligible renewables. If supplemental energy payments from the CEC, in combination with the market prices approved by the CPUC, are not sufficient to cover the above-market costs of eligible renewable energy resources, the CEC will allow the utility to limit its annual procurement obligation to the quantity of eligible renewable energy resources that can be procured with available supplemental energy payments. If

noncompliance continues, and is not excused, penalties will be applied.

REC Trading: In-state REC trading is permitted but is not currently linked to the RPS program.

Website: http://www.energy.ca.gov/portfolio/index.html

Authority: SB 1078 (2002) - California Renewables Portfolio Standard Program http://www.leginfo.ca.gov/pub/bill/sen/sb_1051-1100/sb_1078_bill_20020912_chaptered.pdf

SB 1038 (2002) - Renewable Energy http://www.leginfo.ca.gov/pub/bill/sen/sb_1001-1050/sb_1038_bill_20020912_chaptered.pdf

AB 57 (2002) - Electrical Corporations: Procurement Plans http://www.leginfo.ca.gov/pub/bill/asm/ab_0051-0100/ab_57_bill_20020703_enrolled.pdf

C. Colorado

On November 2, 2004, Colorado voters approved an RPS program over the objections of the state's major utilities. This was the first time in the nation's history that an RPS was considered directly by voters rather than processed through a state's legislature or commission.

Since enactment, several projects have been announced that should help the state's utilities meet the new RPS requirement. On June 24, 2005, the Washington County (Colorado) Commission approved a 200-MW to 300-MW wind farm sited near Akron, Colorado, which was proposed by Greenlight Energy Inc., that will sell power to meet the RPS.[59] Potential power buyers include Xcel Energy and Tri-State Generation and Transmission Association, which may aggregate the RPS needs of the larger Colorado cooperatives.[60] The project is estimated to cost between $250 million and $350 million, depending on its ultimate size.[61]

Xcel Energy has announced that it intends to increase wind power generated in Colorado from 222 MW to approximately 353 MW by the end of 2005.[62]

Oversight:	Colorado Public Utilities Commission
Applies to:	Utilities with 40,000 or more retail customers. At the time of passage of the amendment, nine utilities would be affected: (i) two investor-owned utilities (Xcel Energy and Aquila Inc.); (ii) three municipal utilities (Colorado Springs, Fort Collins and Longmont); and (iii) four rural electric cooperatives (Holy Cross Electric Association Inc., Intermountain Rural Electric Association Inc., United Power Inc. and La Plata Electric Association Inc.)
Enacted:	November 2, 2004
Effective Date:	January 1, 2007
Goal:	10 percent
Deadline:	2010
Schedule:	6 percent by 2011-14, and 10 percent by 2015 and thereafter

[59] Greenlight Energy, Inc., Press Release, Greenlight Energy Gains Approval to Build Large-Scale Wind Farm in Northeastern Colorado (June 24, 2005).

[60] *Id.*

[61] *Id.*

[62] Testimony of Wayne Brunetti, Chairman and CEO of Excel Energy, before the Senate Energy and Natrual Resorces Committee, concerning Diversification of Power Generation (H.R. 6) (Mar. 9, 2005).

Eligible Renewables:	Solar; Wind; Geothermal; Hydroelectric (nameplate capacity of 10 MW or less); Eligible Biomass, which includes (i) agricultural crops, urban wood waste, mill residue, slash, or brush; (ii) animal wastes and products of animal wastes; (iii) methane produced from landfills or wastewater treatment; and (iv) fuel cells using hydrogen produced from the above-defined renewable sources
Technology Minimum:	At least 4 percent of the required renewable energy must come from solar generation and half of this amount must be provided by solar power generated at a customer's facilities.
Eligibility Date:	An eligibility date is not specified in the legislation. Presumably, both existing and new sources are eligible under the RPS.
Out-of-State Generation:	Out-of-state generation is not specifically addressed in the new law. However, generation from renewable resources within the state of Colorado count for 1.25 kWh per 1 kWh of generation for the purposes of meeting the RPS requirement.
Self-generation:	Utilities are required to offer a rebate to customers of $2.00 per watt of installed solar electric capacity at a customer's facilities, up to 100 kW. A net-metering system is established, and excess generation in a given month is applied as a credit for the following month. If in a calendar year a customer's generation exceeds consumption, the utility must reimburse the customer for the excess generation at the utility's average hourly incremental cost for the prior 12-month period. Electricity generated at a customer site can be applied toward meeting the utility's renewable generation requirement. As noted above, the standard requires that 4 percent of the renewable requirement must be met with solar and that half of this 4 percent come from generation at customer's facilities. Utilities are prohibited from establishing burdensome interconnection requirements.
Green Pricing:	Renewable energy sold under green pricing programs is not addressed for currently affected utilities.
Certification:	The Colorado Public Utility Commission may adopt regulations to establish a system of renewable energy credits that may be used by a provider to comply with its portfolio standard.

Funding:

Utilities recover costs associated with the RPS program through traditional rates, subject to the cost cap discussed below. If implementation of renewable generation results in a net decrease in cost to customers, the utility may keep up to 50 percent of the savings. The average utility customer retail electric rate may not increase more than 50 cents per month.

Flexibility:

Utilities may purchase RECs to meet the RPS requirement; however the details of this system have not yet been worked out. Utilities may also count verified generation savings due to energy-efficiency programs towards the requirement.

Utilities currently affected by the requirement can become exempt from the program, and utilities not affected may opt in. Affected utilities may hold elections to exempt themselves from the renewable energy requirement. Similarly, utilities not subject to the requirement may hold elections to be included. At least 25 percent of the utility's customers must vote on the issue of exemption or inclusion, with a majority vote required for passage. In addition, a municipal utility or rural electric cooperative may develop a similar renewable energy requirement and be exempted from this initiative. To qualify, the utility must (i) use at least one of the eligible renewable energy sources, (ii) follow the same schedule for electricity generation from renewable sources and (iii) offer an optional pricing program that allows customers to support emerging renewable technologies. Utilities that choose this option are not required to generate electricity from solar sources.

REC Trading:

The new law directs the Colorado Public Utility Commission to establish an REC trading system. The Commission is also directed to analyze the effectiveness of using a regional trading system, which most likely refers to the system adopted by the Western Governor's Association.

Website:

http://www.renewableenergyyes.com/

Authority:

Amendment 37 - Renewable Energy Requirement
Colorado Ballot Proposal for the November 2, 2004 Election
http://www.state.co.us/gov_dir/leg_dir/lcsstaff/2004/ballot/2004BluebookforInternet.PDF

D. Fort Collins, Colorado

On March 25, 2003, the Fort Collins, Colorado, City Council approved the Electric Energy Supply Policy, which specifies that a minimum of 2 percent of electricity be generated by renewable energy by 2004, increasing to 15 percent by 2017.[63]

The purpose of the policy is to provide strategic objectives regarding system reliability, rates and the environment to guide the electric utility into the future as it continues to provide the citizens of Fort Collins with reliable and competitively priced electric service, in partnership with the Platte River Power Authority. Policy objectives include the following:

1. Reduce per capita electric consumption 10 percent by 2012 (from 2002 baseline);

2. Reduce per capita peak day electric demand 15 percent by 2012 (from 2002 baseline);

3. Work with the Platte River Power Authority to increase the City's percentage of renewable energy to 2 percent by the end of 2004 and 15 percent by the end of 2017;

4. Continue to provide high standards of reliability; and

5. Continue to provide competitive electric rates.[64]

At this time, it is unclear whether the Fort Collins RPS will work in conjunction with the new Colorado RPS, although it should be noted that the Fort Collins RPS has a higher renewable target (15 percent) than the Colorado RPS (10 percent). Renewable energy comprised 2.3 percent of purchased power for 2004, slightly exceeding the Energy Policy target.[65]

Oversight:	City Council of Fort Collins, Colorado
Applies to:	Fort Collins Utilities
Effective Date:	December 1, 2004
Goal:	15 percent
Deadline:	2017
Schedule:	2 percent by 2004 15 percent by 2017

[63] City of Fort Collins Electric Energy Supply Policy at 4 (Mar. 25, 2003).
[64] *Id.* at 2-4.
[65] Fort Collins Utilities, Electric Energy Supply Policy Update, *Business Briefs* at 2 (April 2005).

Eligible Renewables:	Renewable Energy Technologies - unspecified
Technology Minimum:	None
Credit Trading:	Unspecified
Website:	http://www.fcgov.com/utilities/energypolicy.php

E. Montana

In April 2005, Montana enacted an RPS through the Montana Renewable Power Production and Rural Economic Development Act (SB 415 (2005)). The Montana Public Service Commission is charged with developing rules to implement the RPS by June 1, 2006.[66]

Under this new RPS, utilities can meet the standard by (i) entering into long-term purchase contracts for electricity bundled with RECs, (ii) purchasing RECs separately (although RECs sold through voluntary utility green power programs may not be used for compliance) or (iii) a combination of both.[67]

While cooperative and municipal utilities are exempt from these requirements, those with 5,000 or more customers must implement a renewable energy standard that recognizes the "intent of the legislature to encourage new renewable energy production and rural economic development, while taking into consideration the effect of the standard on rates, reliability, and financial resources."[68]

On January 11, 2005, Northwestern Energy, which serves approximately half of Montana, announced an acquisition of up to 150 megawatts of electricity from a wind project currently under construction by Invenergy Wind near Judith Gap, Montana. Through this acquisition, Northwestern Energy will satisfy the initial five percent target.[69]

Oversight:	Montana Public Service Commission
Applies to:	Utilities regulated by the Montana Public Service Commission
Enacted:	April 28, 2005
Goal:	15 percent
Deadline:	2013
Schedule:	5 percent in 2008 10 percent in 2010 15 percent in 2015
Eligible Renewables:	Solar Thermal Electric, Photovoltaics, Landfill Gas, Wind, Biomass, Hydroelectric, Geothermal Electric, Anaerobic Digestion, Fuel Cells (Renewable Fuels)

[66] Mont. Senate Bill No. 415 at § 6.
[67] *Id.* at § 7.
[68] *Id.* at § 8.
[69] NorthWestern Energy, Press Release, NorthWestern Energy Signs Contract to Purchase Wind Energy from Invenergy Wind LLC (Jan. 11, 2005).

Technology Minimum:	None
Eligibility Date:	Both existing and new sources are eligible under the RPS, but out-of-state generators must be new (commencing operation after January 1, 2005) to qualify.
Out-of-State Generation:	Facilities in another state delivering electricity into Montana must be new (commencing operation after January 1, 2005) in order to qualify.
Self-generation:	To be determined
Green Pricing:	To be determined
Certification:	To be determined
Funding:	Utilities recover costs associated with the RPS through rates, subject to cost caps that limit the additional cost utilities are obligated to pay for renewable energy and allows cost recovery from ratepayers for contracts pre-approved by the Montana Public Service Commission.
Flexibility:	The RPS includes specific procurement requirements to stimulate rural economic development. For example, the utilities must buy some of their renewable energy (electricity + credits) from community renewable energy projects with nameplate capacities of 5 megawatts or less. These are projects in which local owners have a controlling interest and which are interconnected on the utility's side of the meter. In 2015, such projects must provide a total of at least 75 megawatts of renewable energy capacity. In addition, public utilities must enter into contracts that include a preference for projects that employ Montana workers. A utility that is unable to comply with the RPS during an annual period (there is a 3-month grace period) must pay an administrative penalty of $10/MWh of renewable energy credits that the utility failed to procure. Penalty payments may not be recovered in electricity rates. Funds derived from penalties go into the universal low-income energy assistance fund. Alternatively, a utility may petition the Montana Public Service Commission for a short-term waiver from full compliance.
REC Trading:	In-state trading permitted

Authority:	SB 415 (2005): Montana Renewable Power Production and Rural Economic Development Act http://data.opi.state.mt.us/bills/2005/billhtml/SB0415.htm

F. Nevada

The Nevada RPS program requires the state's two investor-owned utilities, Nevada Power and Sierra Pacific Power, to derive at least 20 percent of their total electricity needs from renewable energy resources by 2015. Not less than 5 percent of the portfolio energy standard must be generated, acquired, or saved from solar energy systems.

Nevada Assembly Bill 03 allowed utilities to meet the standard through (i) renewable energy generation (or credits) and (ii) energy savings from efficiency measures. Under the change the Public Utilities Commission of Nevada assigns a 240 percent credit for solar power (1 MWh generated from solar energy = 2.4 MWh of credit)[70] and a 70 percent credit for a system that utilizes a reverse polymerization process[71] (1 MWh generated = 0.7 MWh of credit), provided that (i) such system is installed on the premises of a retail customer and (ii) on an annual basis, at least 50 percent of the electricity generated by such system is utilized by the retail customer on that premises.[72]

Nevada Power and Sierra Pacific Power failed to meet the Nevada RPS in both 2003 and 2004, partly because of the utilities' below-investment grade credit rating, which has made it hard for renewable developers to obtain financing for projects. In 2004, the Nevada Public Utilities Commission waived possible fines against the two companies for not complying with the RPS in 2003. On June 28, 2005, Nevada Power, Sierra Pacific Power, and several parties involved in a regulatory case involving such utilities' failure to meet mandated levels of the Nevada RPS in 2004 filed a stipulated agreement with the PUC. If the Commission accepts this agreement, no fines would be imposed against Nevada Power or Sierra Pacific Power for failing to meet the Nevada RPS. Again, difficulties associated with the utilities' below-investment grade credit rating were cited.

Nevada Power and Sierra Pacific Power have entered into 17 long-term contracts for green energy, but four contracts totaling 237 MW were canceled and five totaling 130 MW were delayed by at least one year. According to an April 2005 filing, the utilities do not expect to comply with the solar requirement in the RPS until 2007 at the earliest.

Several projects approved by the Nevada Public Utilities Commission have been delayed. The 50 MW Ely wind farm is expected to start operations in December 2006. Two Ormat Inc. geothermal projects, totaling 30 MW, are expected to come on-line in 2006. Reportedly, the utilities are also negotiating with Solargenix, which has proposed a 50-MW solar project. The project, however, may be delayed in part due to investor concerns about buying into a new technology.

In an attempt to alleviate the difficulties associated with financing renewable projects, the Nevada Commission approved a funding program on September 29, 2004, to help renewable energy developers finance projects. Under the "temporary renewable energy development fund" program (the "TRED Program"), developers can apply to the Nevada Commission to receive payments from the fund for their projects. Under the TRED

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[70] Nev. Rev. Stat. § 704.7822.

[71] Reverse polymerization is a process that generates electricity from a tire that uses microwave reduction and does not involve combustion of the tire. Nev. Rev. Stat. § 704.7823.

[72] Nev. Rev. Stat. § 704.7823.

Program, a predetermined allocation of funds collected by the state's electric utilities will be placed in a third party trust that will disburse payments to renewable energy developers for the electricity sold to the utilities. By creating an independent trust, project financiers are guaranteed payments regardless of the financial situation of the utility. Once the utilities reach and maintain investment-grade ratings for two years, no more participants will be accepted into the program.[73]

Oversight:	Public Utilities Commission of Nevada
Applies to:	Utilities regulated by the Public Utilities Commission of Nevada
Enacted:	June 8, 2001
Effective Date:	May 31, 2002
Goal:	20 percent
Deadline:	2015
Schedule:	6 percent in 2005, rising to 20 percent by 2015
Eligible Renewables:	Solar Water Heat, Solar Space Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Landfill Gas, Wind, Biomass, Small Hydroelectric (less than 30 MW), Geothermal Electric, Municipal Solid Waste, Certain Energy Recovery Systems, Solar Pool Heating, Anaerobic Digestion, Biodiesel
Technology Minimum:	5 percent of the energy portfolio must be solar.
Eligibility Date:	An eligibility date is not specified in the legislation. Presumably, both existing and new sources are eligible under the RPS.
Out-of-State Generation:	Renewable generation from out-of-state that is sold and metered in Nevada is eligible under the RPS. This effectively requires an interconnection in Nevada and thus excludes out-of-state generation from the Nevada RPS.
Self-generation:	Any excess kilowatt-hours fed back to the provider during the compliance year from net metering systems used by customer-generators are eligible. If the provider has subsidized, in whole or in part, the acquisition or installation of a solar thermal energy system which

[73] Nevada Public Utilities Commission Press Release, PUC Approves Regulations to Assist Develpment of Renewables (Sept. 29, 2004).

qualifies as a renewable energy system and which reduces the consumption of electricity, the total reduction in the consumption of electricity during each calendar year that results from the solar thermal energy system shall be deemed to be electricity that the provider generated or acquired from a renewable energy system for the purposes of complying with its portfolio standard.

Green Pricing: Renewable energy sold under green pricing programs is not addressed in legislation.

Certification: The Public Utilities Commission of Nevada may adopt regulations that establish a system of renewable energy credits that may be used by a provider to comply with its portfolio standard.

Funding: Utilities recover costs associated with the RPS program through rates.

Flexibility: Utilities may purchase renewable generation credits to meet the requirement; however, the details of this system are not worked out yet.

The Public Utilities Commission of Nevada assigns 240 percent credit for solar power (1 MWh generated from solar energy = 2.4 MWh of credit), provided that

1. the solar power system is installed on the premises of a retail customer and

2. on an annual basis, at least 50 percent of the electricity generated by such system is utilized by the retail customer on that premises.

The Public Utilities Commission of Nevada assigns 70 percent credit for a system that utilizes a reverse polymerization process (1 MWh generated = 0.7 MWh of credit), provided that

1. the system is installed on the premises of a retail customer and

2. on an annual basis, at least 50 percent of the electricity generated by such system is utilized by the retail customer on that premises.

Any kilowatt-hours that the utility is authorized by the Public Utilities Commission of Nevada to carry forward

from previous compliance years are eligible. The utility may use those excess kilowatt-hours to comply with its portfolio standard for the four compliance years immediately following that compliance year. If the Public Utilities Commission of Nevada determines that, for a calendar year, there is not or will not be a sufficient supply of electricity made available to a utility pursuant to renewable energy contracts with just and reasonable terms and conditions, the Public Utilities Commission of Nevada shall exempt the provider, for that calendar year, from the remaining requirements of its RPS or from any appropriate portion thereof, as determined by the commission.

REC Trading: In-state trading permitted

Website: http://www.puc.state.nv.us/Renewable/REPSNevadafiles/frame.htm

Authority: Nevada Administrative Code
LCB File No. R144-01RA
http://leg.state.nv.us/register/01Register/R144-01FA.html

Nevada Revised Statutes
Portfolio Standard for Renewable Energy (NRS 704.7801-704.7828)
http://www.leg.state.nv.us/NRS/NRS-704.html#NRS704Sec7801 SB 372 (2001)

http://www.leg.state.nv.us/71st/statutes/Stats200117.html#Stats200117page2526 AB 661 (2001)

http://www.leg.state.nv.us/71st/statutes/Stats200121.html#Stats200121page3222

G. New Mexico

On December 17, 2002, the New Mexico Public Regulation Commission approved an RPS entitled "Renewable Energy as a Source of Electricity" that requires investor-owned utilities to obtain at least 5 percent of all the energy from solar, wind, hydropower, biomass, or geothermal sources by 2006.[74] Generation from renewable sources must then increase by no less than 1 percent per year thereafter until a standard of 10 percent is attained in 2011.[75] The Renewable Energy Act (SB 43) codified the Renewable Energy as a Source of Electricity rule and established additional requirements in March of 2001.[76]

Under the New Mexico RPS program, utilities document compliance through the use of RECs, which represent kilowatt hours of renewable energy produced. The various sources of renewable energy have been assigned different values for purposes of issuing RECs and calculating the percentage of electricity generated:

1. One kilowatt-hour of electricity generated by wind or hydroelectric technologies is worth one kilowatt-hour toward compliance with the RPS;[77]

2. One kilowatt-hour of biomass, geothermal, landfill gas, or fuel cell power is worth two kilowatt-hours toward the RPS;[78] and

3. One kilowatt-hour of solar power is worth three kilowatt-hours toward the RPS.[79]

The Renewable Energy as a Source of Electricity rule also requires investor-owned utilities and electric cooperatives (but only to the extent that a cooperative's suppliers under all-requirements contracts make such renewable resources available)[80] to offer a voluntary renewable energy tariff (green pricing program) for those customers who want the option of purchasing additional renewable energy.[81] The utilities were also required to file a renewable energy plan,[82] a portfolio filing,[83] and an annual portfolio summary.[84]

Section 4(C) of SB 43 requires the New Mexico Public Regulation Commission to establish a "reasonable cost threshold" for renewable generation. If the cost of renewable

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[74] New Mexico Public Regulation Commission Press Release, Public Regulation Commission Stands by December Decision to Require Renewable Energy in Portfolios of Utility Companies. (Feb. 4, 2003).

[75] *Id.*

[76] *See* SB 43.

[77] NM Code R. 17 § 9.573.10(C)(1)(a)

[78] NM Code R. 17 § 9.573.10(C)(1)(b)

[79] NM Code R. 17 § 9.573.10(C)(1)(c)

[80] *See* NM Code R. 17 § 9.573.14.

[81] NM Code R. 17 § 9.573.10(D)

[82] NM Code R. 17 § 9.573.11(A)

[83] NM Code R. 17 § 9.573.11(B)

[84] NM Code R. 17 § 9.573.11(C)

energy generation exceeds the reasonable cost threshold, the public utility is not required to incur the costs necessary to add renewable energy to its supply portfolio.[85]

SB 43 also reduces the RPS standard for nongovernmental customers at a single location or facility with consumption exceeding 10,000,000 kWh/yr.[86] After January 1, 2006, the number of kWhs of renewable energy procured for these customers is limited so that the additional cost of the RPS to each such customer does not exceed the lower of (i) 1 percent of that customer's annual electric charges or (ii) $49,000. This procurement limit criterion is increased by one-fifth of a percent or $10,000 per year until January 1, 2011, when it remains fixed at the lower of (i) 2 percent of the customer's annual electric charges or (ii) $99,000. After January 1, 2012, the commission may adjust the $99,000 limit for inflation

Public Service Company of New Mexico satisfied the initial 5 percent threshold by agreeing to purchase power from the New Mexico Wind Energy Center near Fort Sumner, New Mexico.[87] Public Service Company of New Mexico reportedly plans to acquire a mix of biomass and solar generation to meet the 10 percent threshold by 2011.[88]

Xcel Energy plans to increase installed wind capacity in New Mexico from 2MW to 202 MW by the end of 2005.[89]

New Mexico Governor Bill Richardson announced in December 2004 that he would ask the state legislature to establish a new agency that would help finance the construction of new transmission capacity in order to export wind energy to other states in the region.[90] Governor Richardson noted that California's 20 percent renewable energy requirement is being moved forward from 2017 to 2010 partly because Governor Schwarzenegger believes New Mexico can provide California and Nevada with wind power.[91]

Applies to:	Utilities regulated by the New Mexico Public Regulation Commission
Effective Date:	July 1, 2004
Goal:	10 percent
Deadline:	2011
Schedule:	5 percent by 2006, increasing 1 percent per year to 10 percent in 2011

[85] SB 43 at section 4(B)

[86] *Id.* at section 4(A)(3).

[87] Sue Vorenberg, Study Supports Renewable Energy, Albuquerque Tribune (Jan. 26, 2005), at A2.

[88] *Id.*

[89] Testimony of Wayne Brunetti, Chairman and CEO of Excel Energy, before the Senate Energy and Natrual Resorces Committee, concerning Diversitification of Power Generationo (H.R. 6) (Mar. 9, 2005).

[90] Erik Siemers, Moving the Wind, Albuquerque Tribune (Jan 10, 2005), at B1.

[91] *Id.*

Eligible Renewables:	Solar Thermal Electric, Photovoltaics, Landfill Gas, Wind, Biomass, Small Hydroelectric (nameplate capacity of 5 MW or less), Geothermal Electric, Anaerobic Digestion, Fuel Cells (Renewable Fuels)
Technology Minimum:	None, although some sources have a higher "value" for accumulating credits.
Eligibility Date:	Both existing and new sources are eligible under the RPS, except that small hydroelectric facilities are limited to new facilities.
Out-of-State Generation:	Permitted, but other factors being equal, preference is given to renewable energy generated in New Mexico.
Self-generation:	No regulations specified
Green Pricing:	Each utility is to offer a voluntary renewable energy tariff, for those customers who want the option of purchasing renewable energy, regardless of cost and based on availability. Generation sold under green pricing programs is eligible under the RPS.
Certification:	A renewable energy certificate must provide a detailed description of source, producer, date of issue and quantity of kilowatt hours represented to enable the Public Regulation Commission to properly track and document RPS procurement. Once used to satisfy the renewable portfolio standard, certificates are to be retired. An unused certificate may be "rolled over" for use in subsequent years, but has no value beyond four years from the date of issuance.
Funding:	Utilities recover costs associated with the RPS through rates, provided that (i) industrial consumers requiring large loads of electricity surpassing 10 million kilowatt-hours are protected from receiving charges over $100,000 per year or no more than a 2 percent increase in electricity charges for renewable energy sources and (ii) the New Mexico Public Regulation Commission is charged with creating a consumer protection threshold to establish reasonable costs above which consumers will not have to pay for the excess costs of renewables.
Flexibility:	The legislation allows for credit trading, credit banking and provides credit multipliers for specific resources. Renewable energy certificates maintain value for up to four

years after date of issuance, and may be used to meet the standard at the utility's discretion.

The New Mexico Public Regulation Commission assigns a 300 percent credit for a system that utilizes solar technology (1 MWh generated from solar energy = 3 MWh of credit). The Commission assigns a 200 percent credit for a system that utilizes biomass, geothermal, landfill gas or fuel cell sources (1 MWh generated from solar energy = 2 MWh of credit).

REC Trading: In-state trading permitted

Website: http://www.nmprc.state.nm.us/utility/pdf/3619finalrule.pdf

Authority: Renewable Energy as a Source of Electricity - 17.9.573 New Mexico Administrative Code: http://www.nmprc.state.nm.us/utility/pdf/3619finalrule.pdf

Renewable Energy Act http://legis.state.nm.us/sessions/04%20regular/bills/senate/sb0043.html

H. Texas

On December 16, 1999, the Public Utility Commission of Texas issued the Renewable Energy Mandate Rule, which (i) established the state's renewable portfolio standard, (ii) established an REC trading program and (iii) defined the renewable energy purchase requirement for competitive retailers in Texas.[92] The rule required the installation of 2,000 MW of new renewable energy generation in Texas by 2009 and the retention of 880 MW of existing renewables generation.[93]

The Texas RPS led to a "Texas Wind Rush" that produced ten new wind projects totaling 930 MW in 2001 alone.[94] Since 1999, about 1,190 MW of new renewable capacity (about 60 percent of the 2009 target) has been installed in Texas.[95] Wind accounts for more than 96 percent of this expansion, with most wind generators located in West Texas counties of Crane, Crockett, Pecos and Upton.[96] From 2001 through June 30, 2005, more than 12 million RECs have been produced in Texas.[97]

Recently, the Texas Public Utility Commission announced that it expects the state to achieve its goal of adding 2,000 MW of renewable energy by the end of 2006, three years before the RPS deadline.[98]

On August 1, 2005, Texas Governor Rick Perry signed a bill, S.B. 20, that increased the Texas RPS goal to approximately 5 percent by 2018 and 10 percent by 2025, rather than the current goal of approximately 3 percent.[99] The bill also specifies that 500 MWs will be set aside for renewable resources other than wind.[100]

According to press accounts, polling suggests that 79 percent of Texans prefer increasing the amount of renewable energy used to meet energy needs.[101]

Effective Date:	January 10, 2000
Goal:	5,880 MW by 2015 10,000 MW by 2025

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[92] Public Utility Commission's Substantive Rules § 25.173.

[93] Wind Energy Boom Helps Texas Close in on Renewables Target Ahead of Schedule, Electric Utility Week at 8 (Mar. 21, 2005).

[94] Renewable Energy in the 21st Century: Why States Lead the Way, Public Utilities Fortnightly at 14 (Mar. 1, 2005).

[95] *See* Public Utility Commission of Texas Press Release, Texas to Hit Renewable Energy Goal Early, (Mar. 15, 2005).

[96] *Id.*

[97] ERCOT, "Quarter / Annual Renewable Energy Generation in Texas by Technology Type," <http://www.tcxasrenewables.com/publicReports/rpt8.asp>>.

[98] *See* Public Utility Commission of Texas Press Release, Texas to Hit Renewable Energy Goal Early, (Mar. 15, 2005).

[99] Texas Office of the Governor, Press Release, Gov. Perry Signs Bill to Increase Clean Energy Production (Aug. 1, 2005).

[100] *Id.*

[101] Daniel Mottola, Lege Backs Renewable Energy, The Austin Chronicle (July 22, 2005).

Schedule:	2,280 MW by January 1, 2007 3,272 MW by January 1, 2009 4,264 MW by January 1, 2011 5,256 MW by January 1, 2013 5,880 MW by January 1, 2015 10,000 MW by January 1, 2025
Eligible Renewables:	Solar Water Heat, Solar Space Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Landfill Gas, Wind, Biomass, Hydroelectric, Geothermal Electric, Anaerobic Digestion, Tidal Energy, Wave Energy, Ocean Thermal
Technology Minimum:	None
Eligibility Date:	Only new facilities are eligible. New facilities are defined as renewable energy generators placed in service on or after September 1, 1999. Renewable resources that are less than 2 MW in size and placed in service before September 1, 1999, are eligible under the "small producer" definition.
Out-of-State Generation:	Renewable generation from out of state that is sold and metered in Texas is eligible under the RPS. This effectively requires an interconnection in Texas and thus excludes most out-of-state generation from eligibility.
Self-generation:	Generation-offset, off-grid, or on-site distributed renewable facilities are eligible for the REC system if they otherwise meets the requirements of the RPS. Generation offset technology is any renewable technology that reduces the demand for electricity at a site where a customer consumes electricity, such as solar water heating and ground-source geothermal heat pumps.
Green Pricing:	Renewable generation under Green Pricing programs is eligible under the RPS.
Certification:	Certification began July 1, 2001. One REC represents 1 MWh of renewable energy that is physically metered and verified in Texas as meeting the RPS requirements.
Funding:	Utilities recover costs associated with the RPS program through rates.
Flexibility:	RECs can be banked up to 3 years. A 3-month "true-up" period is allowed, and credits from the 6-month early compliance period in 2001 can be used. All competitive

retailers incurring a 5.0 percent deficit must make up the amount of RECs associated with the deficit in the next compliance period. Retailers are subject to a penalty for any REC shortfall that is greater than 5.0 percent during this period. Penalties are set at the lesser of $50 per MWh or, upon presentation of suitable evidence of market value by the competitive retailer, 200 percent of the average market value of credits for that compliance period.

REC Trading: In-state trading permitted

Website: http://www.puc.state.tx.us/rules/subrules/electric/25.173/25.173ei.cfm

Authority: S.B. 20, amending Section 36.053, Utilities Code.
http://www.capitol.state.tx.us/cgi-bin/tlo/textframe.cmd?LEG=79&SESS=1&CHAMBER=S&BILLTYPE=B&BILLSUFFIX=00020&VERSION=5&TYPE=B

Public Utility Commission's Substantive Rules
§ 25.173. Goal for Renewable Energy (05/15/00)
http://www.puc.state.tx.us/rules/subrules/electric/25.173/25.173.pdf

Texas Utilities Code Annotated
Chapter 39. Restructuring of Electric Utility Industry
§ 39.904. Goal for Renewable Energy
http://www.capitol.state.tx.us/statutes/ut/ut0003900.html#ut079.39.904

Renewable Energy Mandate (07/27/99)
http://www.puc.state.tx.us/rules/rulemake/20944/20944.cfm

I. Austin, Texas

On February 11, 1999, the Austin City Council established a goal for Austin Energy to achieve 5 percent of the energy in its portfolio mix to come from renewable resources by December 31, 2004.[102] Renewable resources are those stated in the definition of "renewable resources" in Public Utility Commission of Texas Substantive Rule 25.5 and include solar, wind, geothermal, hydroelectric, wave, or tidal energy, biomass or biomass-based waste products, and landfill gas.[103]

Funding to achieve the 5 percent goal is provided by Austin Energy's green pricing program, "GreenChoice." Residential and business customers can choose to have the standard fuel charge on their electric bill (2.796 cents per kWh of electricity used) replaced by the GreenChoice power charge (3.500 cents per kWh of electricity used), which will remain fixed for 10 years.[104]

On September 25, 2003, the Austin City Council approved a resolution that directed Austin Energy to execute a Memorandum of Understanding with the World Wildlife Fund, which includes a goal for Austin Energy to achieve a 20 percent renewable energy component in its energy portfolio, an increase in energy efficiency of 15 percent by 2020, and support of binding limits on national power sector CO2 emissions.[105]

On December 4, 2003, the City Council unanimously approved Austin Energy's 10-year Strategic Plan. Objective 5 of the plan follows Austin City Council Resolution No. 030925-2 by establishing a renewable portfolio standard of 20 percent by 2020. The plan also commits Austin Energy to develop 15 megawatts of solar generating capacity by 2007, and increase solar generating capacity to 100 megawatts by 2020. In support of this goal, Austin Energy established a photovoltaic rebate program of $5.00 per watt for photovoltaic energy generated outside of Austin and $6.25 per watt for photovoltaic energy generated inside of Austin.[106]

In early 2005, Austin Energy signed a 12-year contract for 128 megawatts (MW) of electricity from wind generation located in West Texas. This production is expected to boost the utility's renewable energy portfolio to about 6.5 percent once the facilities are complete.[107]

Oversight: City Council of Austin, Texas

Applies to: Austin Energy

Enacted: 2/1/1999

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[102] Austin City Council Resolution No. 990211-36.

[103] *Id.*

[104] Austin Energy, "Green Choice Program Details," http://www.austinenergy.com/Energy%20Efficiency/Programs/Green%20Choice/programDetails.htm.

[105] Austin City Council Resolution No. 030925-2.

[106] *See* Austin Energy's Ten-Year Strategic Plan at 7.

[107] *See* Austin Energy Press Release, Austin Energy Doubles Size of its Clean Energy Portfolio (Jan. 25, 2005).

Goal:	20 percent
Deadline:	2020
Schedule:	5 percent by 12/31/04 20 percent by 1/1/2020
Eligible Renewables:	Solar Thermal Electric, Photovoltaics, Landfill Gas, Wind, Biomass, Hydroelectric, Geothermal Electric, Tidal Energy, Wave Energy
Technology Minimum:	None.
Credit Trading:	Unspecified
Notes:	The Austin RPS is funded by an optional program in which customers can choose to pay the GreenChoice electricity rate instead of the standard rate. The GreenChoice rate is fixed for 10 years and currently costs an average residential customer approximately $5 extra per month.
Website:	http://www.austinenergy.com/Energy %20Efficiency/ Programs/Green %20Choice/index.htm
	Authority: City Council Resolution No. 990211-36; City Council Resolution No. 030925-2; Austin Energy's Ten-Year Strategic Plan