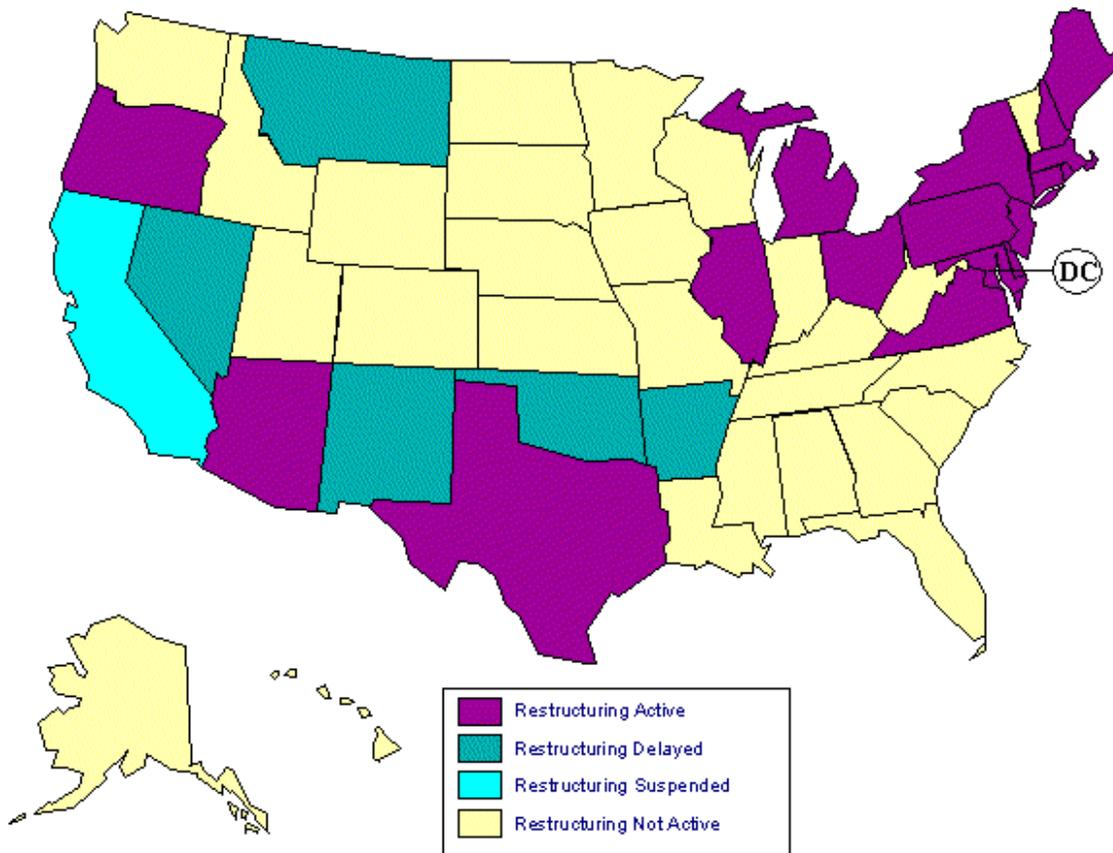


3.1 – States with Competitive Electricity Markets

Purple-colored states are active in the restructuring process, and these states have either enacted enabling legislation or issued a regulatory order to implement retail access. Retail access is either currently available to all or some customers, or will soon be available. Those states are Arizona, Connecticut, Delaware, District of Columbia, Illinois, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Texas, and Virginia. In Oregon, no customers are currently participating in the state's retail access program, but the law allows access to nonresidential customers.

A green-colored state signifies a delay in the restructuring process or the implementation of retail access. Those states are Arkansas, Montana, Nevada, New Mexico, and Oklahoma. California is the only blue-colored state because direct retail access has been suspended.

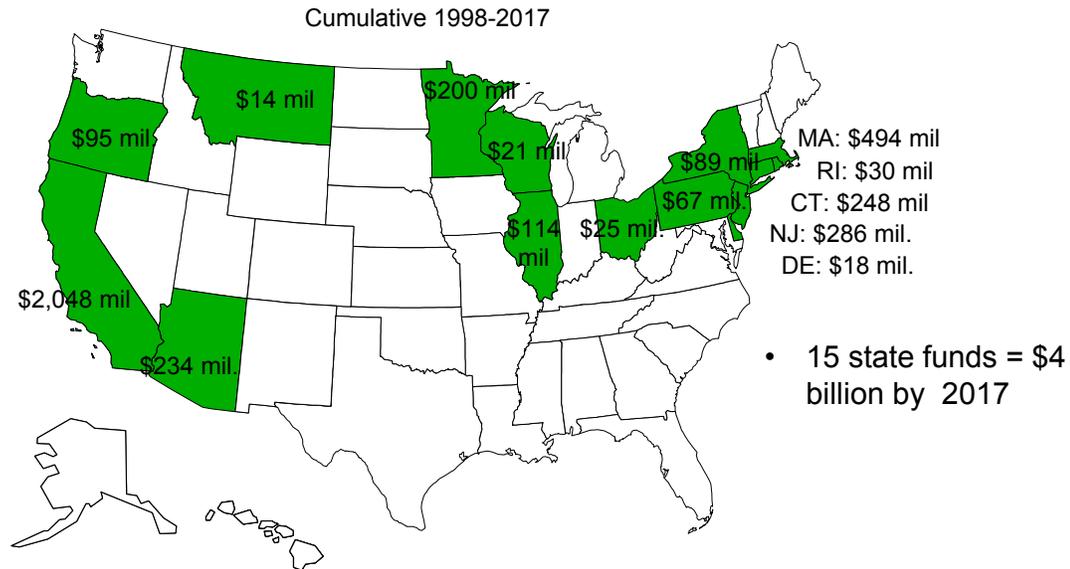


Source: U.S. DOE, Energy Information Administration
http://www.eia.doe.gov/cneaf/electricity/chg_str/regmap.html, last updated February 2003.

Figure 3.1.1. Status of Restructuring of State Electricity Markets

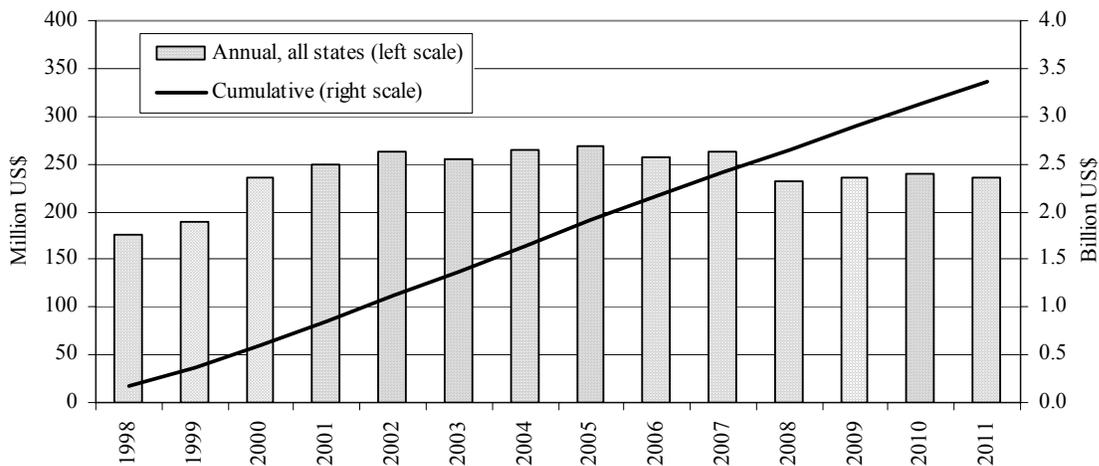
3.2 – States with System Benefit Charges (SBC)

A System Benefit Charge (SBC) is a small fee added to a customer’s electricity bill used to fund programs that benefit the public, such as low-income energy assistance, energy-efficiency, and renewable energy. There are 15 states with SBCs, through which a portion of the money will be used to support renewable resources. Together, these states will collect about \$4 billion in funds to support renewable resources between 1998 and 2017.



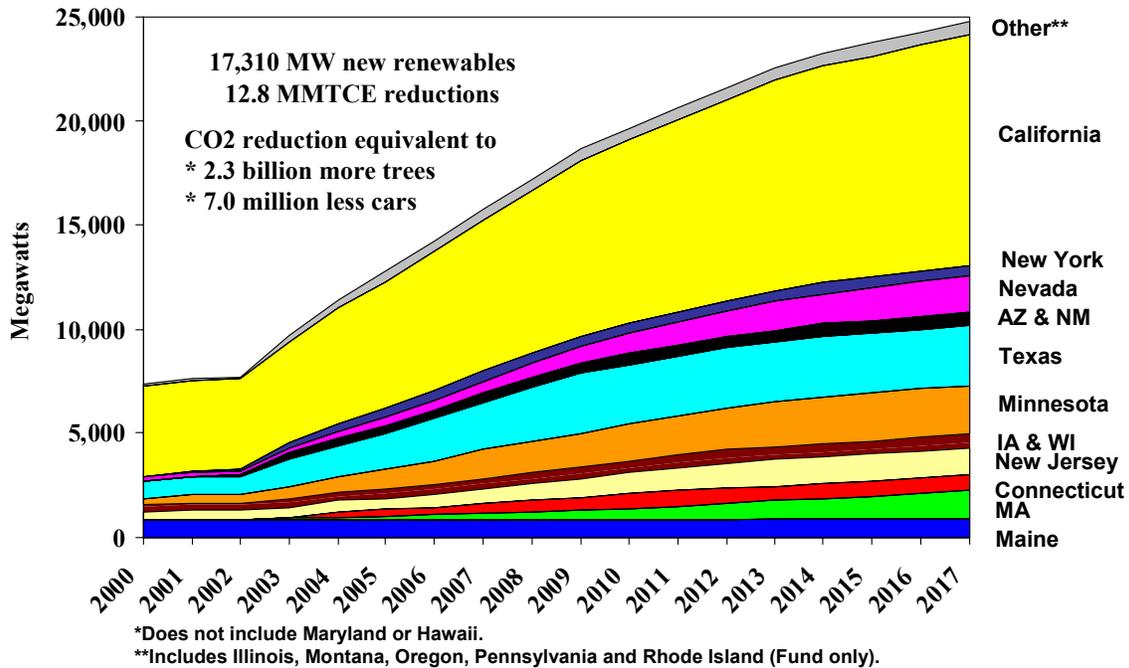
Source: Union of Concerned Scientists, June 2004

Figure 3.2.1. State System Benefit Funds



Source: Bolinger, M., R. Wiser, L. Milford, M. Stoddard, and K. Porter. *Clean Energy Funds: An Overview of State Support for Renewable Energy*, Lawrence Berkeley Laboratory, April 2001.

Figure 3.2.2. Aggregation Annual and Cumulative State Funding



Source: Union of Concerned Scientists, June 2004

Figure 3.2.3. The Future Impact of State Purchase Mandates and Renewable Energy Funds

Table 3.2.1. Renewable Energy Funding Levels and Program Duration

State	Approximate Annual Funding (\$ Million)	\$ Per-Capita Annual Funding	\$ Per-MWh Funding	Funding Duration
CA	135	4.0	0.58	1998 - 2012
CT	15 → 30	4.4	0.50	2000 - indefinite
DE	1 (maximum)	1.3	0.09	10/1999 - indefinite
IL	5	0.4	0.04	1998 - 2007
MA	30 → 20	4.7	0.59	1998 - indefinite
MN	9	N/A	N/A	2000 - indefinite
MT	2	2.2	0.20	1999 - 7/2003
NJ	30	3.6	0.43	2001 - 2008
NM	4	2.2	0.22	2007 - indefinite
NY	6 → 14	0.7	0.11	7/1998 - 6/2006
OH	15 → 5 (portion of)	1.3	0.09	2001 - 2010
OR	8.6	2.5	0.17	10/2001 - 9/2010
PA	10.8 (portion of)	0.9	0.08	1999 - indefinite
RI	2	1.9	0.28	1997 - 2003
WI	1 → 4.8	0.9	0.07	4/1999 - indefinite

Note: Annual and per-MWh funding are based on funds expected in 2001.
Source: Bolinger et al., 2001

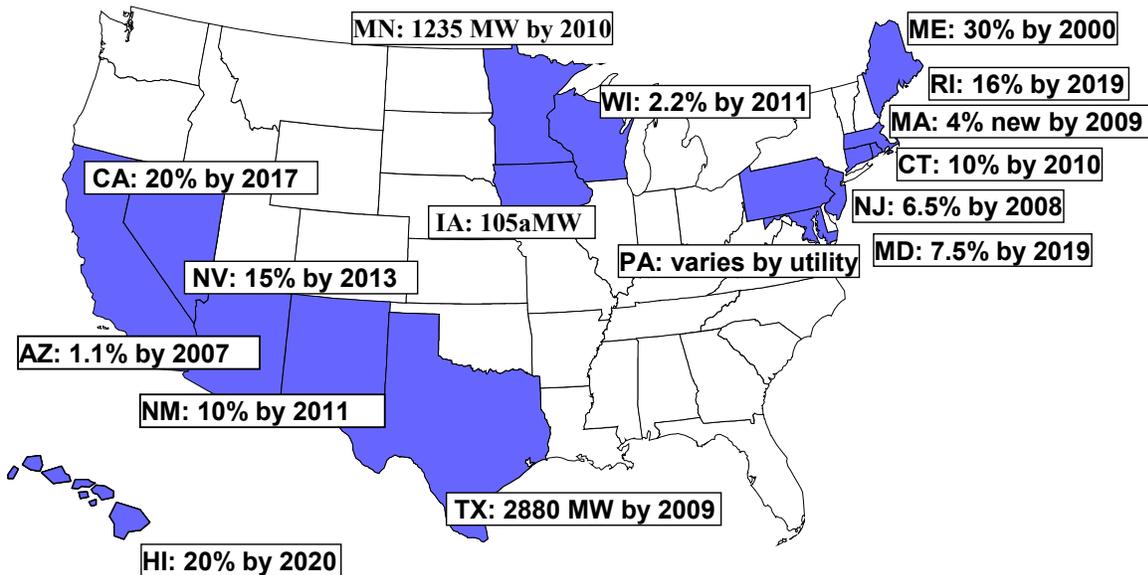
Table 3.2.2. State SBC Funding of Large-Scale Renewable Projects

State	Form of Funding Distribution	Level of Funding (\$ Million)	Results ¹	Discounted cents/kWh Incentive over Five Years ²
CA	Five-year production incentive	162	543 MW (assorted)	1.20
		40	471 MW (assorted)	0.59
		40	300 MW (assorted)	0.75
IL	Grant	0.55	3 MW landfill gas	0.57
		1	3 MW hydro	1.86
		0.352	1.2 MW hydro	1.63
		0.55	15 MW landfill gas	0.11
MT	Three-year production incentive	1.5	3 MW wind	3.63
NY	Grants with performance guarantees	9	51.5 MW wind	1.95
		4	6.6 MW wind	6.75
PA	Grant/ production incentive	6	67 MW wind	1.00

¹ Results are projected and are based on announced results of solicitations.
² Incentives have been normalized to their five-year production incentive equivalent using a 10% discount rate.
Source: Bolinger et al., 2001.

3.3 – States with Renewable Portfolio Standards (RPS)

A Renewable Portfolio Standard (RPS) is a policy that obligates a retail electricity supplier to include renewable resources in its electricity generation portfolio. Retail suppliers can meet the obligation by constructing or owning eligible renewable resources or purchasing the power from eligible generators. To date, 16 states have adopted RPS policies or renewable purchase obligations. Initially, most states adopted RPS policies as part of electric industry restructuring; but, more recently, a number of states have implemented policies by legislation or proceedings that are separate from restructuring activities. In conjunction with system benefits funds, RPS policies are expected to lead to the development of more than 17,000 MW of new renewable energy capacity by 2017 (see **Figure 3.3.1**).



Source: Updated by NREL July 2004 based on original map prepared by Lawrence Berkeley National Laboratory and Union of Concerned Scientists.

Figure 3.3.1. Renewable Portfolio Standards and Renewables Purchase Obligations by State

Table 3.3.1. State Renewable Portfolio Standards and Purchase Requirements

State	Purchase Requirements	Eligible Resources	Credit Trading	Penalties	Outside of state?
AZ	0.2% in 2001, rising by 0.2%/yr to 1% in 2005, then to 1.05% in 2006, and to 1.1% from 2007-2012. (2001: 50% from solar electric, 2004:60% from solar electric)	PV and solar thermal electric, R&D, solar hot water, and in-state landfill gas, wind, and biomass.	No central credit trading system	30 cents/kWh starting in 2004. Proceeds go to solar electric fund to finance solar projects.	Out-of-state solar eligible if power reaches AZ. Landfill gas, wind, and biomass must be in-state.
CA	Investor-owned utilities must add minimum 1% annually to 20% by 2017.	Biomass, solar thermal, photovoltaic, wind, geothermal, existing hydro < 30MW, fuel cells using renewable fuels, digester gas, landfill gas, ocean energy.	WREGIS system under development	To be determined	Out-of-state eligible if meets criteria for approval.
CT	3% Class I or II Technologies by Jan 1, 2004 Class I 1% Jan 1, 2004 increasing to 1.5% by 2005, 2% by 2006, 3.5% by 2007, 5% by 2008, 6% by 2009, and 7% by Jan 1, 2010	Class I: solar, wind, new sustainable biomass, landfill gas, fuel cells, ocean thermal, wave, tidal, advanced renewable energy conversion technologies, new run of river hydro (<5 MW). Class II: licensed hydro, MSW, and other biomass.	Yes. Using NEPOOL Generation Information System.	Penalty of 5.5¢/kWh paid to the Renewable Energy Investment Fund for the development of Class I renewables	New England resources or electricity delivered to New England are eligible.
IA	Investor-owned utilities to purchase 105 average MW (~2% of 1999 sales)	Solar, wind, methane recovery, and biomass	No	Unspecified	Out-of-state renewables not eligible.
HI	8% by end of 2005, 10% by 2010, 15% by 2015 and 20% by 2020	Wind, solar, hydropower, biomass including landfill gas, waste to energy, and fuels derived from organic sources, geothermal, ocean energy, fuel cells using hydrogen from renewables	Unspecified	Unspecified; standard to be revisited if utilities can not meet it in cost-effective manner	Unspecified
ME	30% of retail sales in 2000 and thereafter. PUC will revisit within 5 years.	Fuel cells, tidal, solar, wind, geothermal, hydro, biomass, and MSW (< 100MW); high efficiency cogeneration. Self-generation is not eligible. Resource supply under this definition exceeds RPS requirement.	No. However, PUC is considering adoption of NEPOOL Generation Information System.	Possible sanctions at discretion of PUC including license revocation, monetary penalties, or payment into renewables fund.	New England resources or electricity delivered to New England are eligible.

State	Purchase Requirements	Eligible Resources	Credit Trading	Penalties	Outside of state?
MD	3.5% by 2006 with 1% from Tier 1 sources, Tier 1 increasing by 1% every other year from 2007 to 2018, Tier II remains at 2.5%, 7.5% total by 2019 and in subsequent years	Tier 1: solar, wind, geothermal, qualifying biomass, small hydropower (<30MW), and landfill methane Tier II: existing large hydropower, poultry litter incineration, existing waste to energy	Yes	Alternative Compliance fee of 2¢/kWh for Tier 1 and 1.5¢/kWh for Tier 2 paid to Maryland Renewable Energy Fund	Trading system to work in conjunction with PJM system
MA	1% of sales to end-use customers from new renewables in 2003, +0.5%/yr to 4% in 2009 1%/yr increase thereafter until determined by Division of Energy Resources	New renewables placed into commercial operation after 1997, including solar, wind, ocean thermal, wave, tidal, fuel cells using renewable fuels, landfill gas, and low-emission advanced biomass. Excess production from existing generators over historical baseline eligible.	Yes. Using NEPOOL Generation Information System.	Entities may comply by paying 5¢/kWh. Non-complying retailers must submit a compliance plan. Revocation or suspension of license is possible.	New England resources or electricity delivered to New England are eligible.
MN	(Not true RPS) Applies to Xcel Energy only: 425 MW wind by 2002 and 110 MW biomass. Additional 400 MW wind by 2006 and 300 MW by 2010	Wind, biomass.	No, other than standard regulatory oversight.	No	Unspecified
NV	5% by 2003 increase 2%/yr until 15% in 2013. Minimum 5%/yr must come from solar.	Solar, wind, geothermal, & biomass (includes agricultural waste, wood, MSW, animal waste and aquatic plants). Distributed resources receives extra credit (1.15).	Yes. RECs valid for 4 years following year issued.	Financial penalties may be applied for noncompliance.	Out-of-state resources eligible with dedicated transmission line.
NJ	Class I or II: 2.5% Class I: 4% by 2008, with solar requirement of 0.16% retail sales (90MW)	Class I.: Solar, PV, wind, fuel cells, geothermal, wave, tidal, landfill methane, and sustainable biomass. Class II: hydro <30 MW and MSW facilities that meet air pollution requirements.	Legislation allows credit trading, PJM credit trading system under development.	Shortfalls must be made up in the following year or financial penalties, license revocation or suspension.	Eligible if power flows into PJM or NYISO. Class II must come from states open to retail competition.

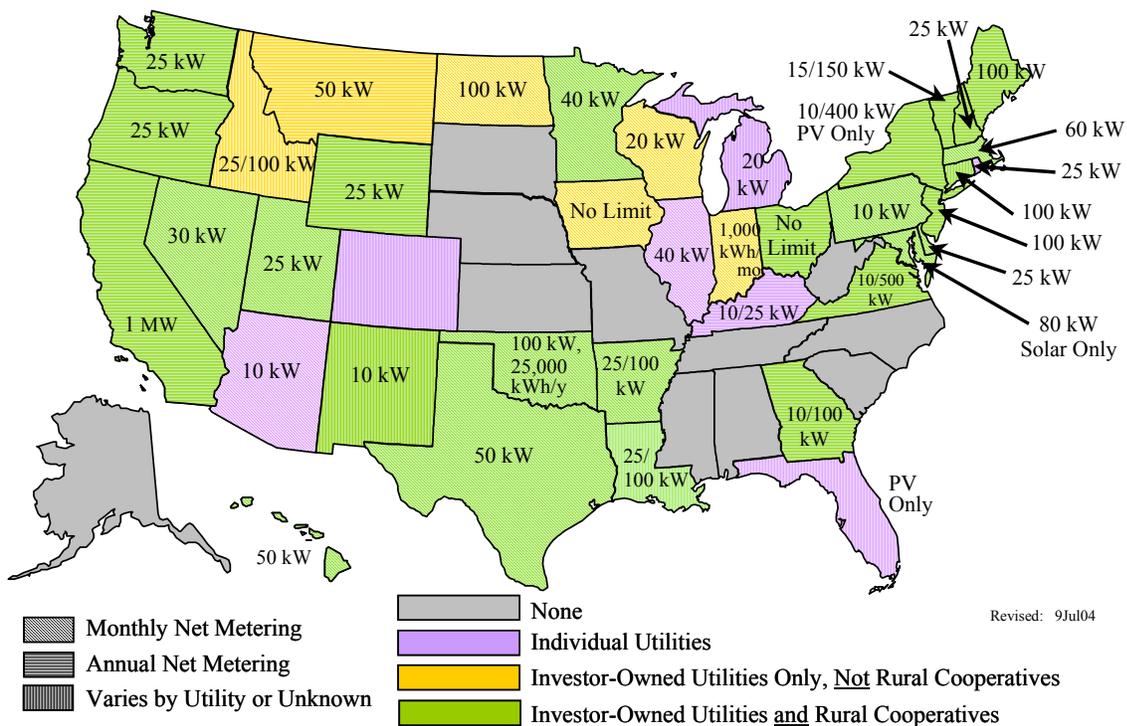
State	Purchase Requirements	Eligible Resources	Credit Trading	Penalties	Outside of state?
NM	5% of retail sales by 2006. Increase by 1%/yr to 10% by January 1, 2011 and thereafter.	Solar, wind, hydro (<=5 MW), biomass, geothermal, and fuel cells. 1 kWh solar = 3kWh; 1 kWh biomass, geothermal, landfill gas, or fuel cells =2 kWh toward compliance	Yes. RECs valid for 4 years from date of issuance.	Yes, but to be determined.	Must be delivered in state.
PA	For PECO, West Penn, & PP&L, 20% of residential consumers served by competitive default provider: 2% in 2001 rising 0.5%/yr. For GPU 0.2% in 2001 for 20% customers, 40% of customers in 2002, 60% in 2003, 80% in 2004.	Solar, wind, ocean, geothermal, sustainable biomass.	No.	Unspecified.	Eligible
RI	3% by 2003, increasing 0.5% annually 2008-2010, increasing 1% annually 2011-2014, increasing 1.5% annually 2015-2019	Solar, wind, eligible biomass, including co-firing, geothermal, small hydropower, ocean, fuel cells using hydrogen derived from renewables.	Yes. Using NEPOOL Generation Information System.	Alternative compliance payments can be made to Renewable Energy Development Fund.	New England resources or electricity delivered to New England are eligible.
TX	1280 MW by 2003 increase to 2880 MW by 2009 (880 MW from existing) ~2.3% of 2009 sales.	Solar, wind, geothermal, hydro, wave, tidal, biomass, including landfill gas. New (operational after Sept. 1, 1999) or small (<2MW) facilities eligible.	Yes.	Lesser of 5¢/kWh or 200% of average market value of renewable energy credits. Under certain circumstances, penalty may not be assessed.	Not eligible unless dedicated transmission line into state.
WI	0.5% by 2001 increasing to 2.2% by 2011 (0.6% can come from facilities installed prior to 1998).	Wind, solar, biomass, geothermal, tidal, fuel cells that use renewable fuel, & hydro under 60 MW. Eligibility may be extended by PUC.	Yes. Utilities with excess RECs can trade or bank them.	Penalty of \$5,000-\$500,000 is allowed in legislation.	Eligible
Source: Table updated by NREL July 2004. Derived from table in Wisler, R. Porter, K., Grace, R., Kappel, C. <i>Creating Geothermal Markets: Evaluating Experience with State Renewables Portfolio Standards</i> , report prepared for the National Geothermal Collaborative, 2003.					

Table 3.3.2. State Renewable Energy Goals (Nonbinding)

State	Purchase Requirements	Eligible Resources
Illinois	5% by 2010; 15% in 2020	Wind, solar thermal, PV, organic waste biomass, & existing run-of-river hydro.
Minnesota	1% by 2005 increasing by at least 1%/year to 10% by 2015	Wind, solar, hydro (<60 MW), and biomass

3.4 – States with Net-Metering Policies

Net metering allows customers with generating facilities to turn their electric meters backward when their systems are producing energy in excess of their on-site demand. In this way, net metering enables customers to use their own generation to offset their consumption over a billing period. This offset means that customers receive retail prices for the excess electricity they generate. Without net metering, a second meter is usually installed to measure the electricity that flows back to the provider, with the provider purchasing the power at a rate much lower than the retail rate.



Source: J. Green, National Renewable Energy Laboratory, updated July 2004.
http://www.eere.energy.gov/greenpower/resources/maps/netmetering_map.shtml

Figure 3.4.1. Net-Metering Policies by State

Table 3.4.1. Summary of State Net-Metering Policies

State	Allowable Technology and Size	Allowable Customer	Statewide Limit	Treatment of Net Excess Generation (NEG)	Authority	Enacted	Scope of Program
AZ	≤10 kW; eligible technologies vary by utility	All customer classes	None	Annual NEG granted to utility	ACC; Utility Tariffs	1981	SRP and TEP
AR	Renewables, fuel cells and microturbines ≤25 kW residential ≤100 kW commercial	All customer classes	None	Monthly NEG granted to utilities	Legislature	2001	All utilities
CA	Solar and wind ≤1000 kW	All customer classes	0.5% of utilities peak demand	Annual NEG granted to utilities	Legislature	2002; 2001; 1995	All utilities
CO	Wind and PV 3 kW, 10 kW	Varies	NA	Varies	Utility tariffs	1997	Four Colorado utilities
CT	Renewables and fuel cells ≤100 kW	Residential	None	Not specified	Legislature	1990, updated 1998	All IOUs, No REC in state.
DE	Renewables ≤25 kW	All customer classes	None	Not specified	Legislature	1999	All utilities
FL	JEA: PV and wind ≤10 kW	JEA: Residential only; NSB: All customer classes	None	JEA and NSB: Monthly NEG granted to customer	Individual Utility Tariffs	2003 (JEA)	JEA, New Smyrna Beach
GA	Solar, wind, fuel cells ≤10 kW residential ≤100 kW commercial	Residential and commercial	0.2% of annual peak demand	Monthly NEG or total generation purchased at avoided cost or higher rate if green priced	Legislature	2001	All utilities
HI	Solar, wind, biomass, hydro ≤50 kW	Residential and small commercial	0.5% of annual peak demand	Monthly NEG granted to utilities	Legislature	2001	All utilities
ID	Eligible technologies vary by utility ≤25 kW residential ≤100 kW commercial (Avista ≤25 kW)	Residential and small commercial	None	NEG varies by utility	Public Utility Commission	1980	IOUs only, RECs are not rate-regulated
IL	Solar and wind ≤40 kW	All customer classes; ComEd only	0.1% of annual peak demand	NEG purchased at avoided cost	ComEd tariff	2000	Commonwealth Edison

State	Allowable Technology and Size	Allowable Customer	Statewide Limit	Treatment of Net Excess Generation (NEG)	Authority	Enacted	Scope of Program
IN	Renewables and cogeneration ≤1,000 kWh/month	All customer classes	None	Monthly NEG granted to utilities	Public Utility Commission	1985	IOUs only, RECs are not rate-regulated
IA	Renewables and cogeneration (No limit per system)	All customer classes	105 MW	Monthly NEG purchased at avoided cost	Iowa Utility Board	1993	IOUs only, RECs are not rate-regulated [2]
KY	Residential PV ≤ 15 kW	Not specified	0.1% of a supplier's single-hour peak load for previous year	Monthly NEG granted to customer	Legislature	2004	IOUs and RECs
LA	Residential ≤25 kW; ≤100 kW commercial and farm	Residential, commercial, farm	None	Not specified	Legislature	2003	All utilities
ME	Renewables and fuel cells ≤100 kW	All customer classes	None	Annual NEG granted to utilities	Public Utility Commission	1998	All utilities
MD	Solar and wind ≤80 kW	Residential, commercial, and nonprofit	0.2% of 1998 peak	Monthly NEG granted to utilities	Legislature	1997	All utilities
MA	Qualifying facilities ≤60 kW	All customer classes	None	Monthly NEG purchased at avoided cost	Legislature	1997	All utilities
MN	Qualifying facilities ≤40 kW	All customer classes	None	NEG purchased at utility average retail energy rate	Legislature	1983	All utilities
MT	Solar, wind and hydro ≤50 kW	All customer classes	None	Annual NEG granted to utilities at the end of each calendar year.	Legislature	1999	IOUs only
NV	Biomass, geothermal, solar, wind, hydro ≤30 kW	All customer classes	None	Monthly or annual NEG granted to utilities	Legislature	2001; 1997	All utilities
NH	Solar, wind and hydro ≤25 kW	All customers classes	0.05% of utility's annual peak	NEG credited to next month	Legislature	1998	All utilities
NJ	PV and wind ≤100 kW	Residential and small commercial	0.1% of peak or \$2M annual financial impact	Annualized NEG purchased at avoided cost	Legislature	1999	All utilities

State	Allowable Technology and Size	Allowable Customer	Statewide Limit	Treatment of Net Excess Generation (NEG)	Authority	Enacted	Scope of Program
NM	Renewables and cogeneration ≤10 kW	All customer classes	None	NEG credited to next month, or monthly NEG purchased at avoided cost (utility choice)	Public Utility Commission	1999	All utilities
NY	Solar residential ≤10 kW; wind residential ≤ 25 kW; Farm biogas systems <400 kW; Farm wind ≤ 125 kW	Residential; farm systems	0.1% 1996 peak demand	Annualized NEG purchased at avoided cost	Legislature	2002; 1997	All utilities
ND	Renewables and cogeneration ≤100 kW	All customer classes	None	Monthly NEG purchased at avoided cost	Public Utility Commission	1991	IOUs only, RECs are not rate-regulated
OH	Renewables, microturbines, and fuel cells (no limit per system)	All customer classes	1.0% of aggregate customer demand	NEG credited to next month	Legislature	1999	All utilities
OK	Renewables and cogeneration ≤100 kW and ≤25,000 kWh/year	All customer classes	None	Monthly NEG granted to utility	Oklahoma Corporation Commission	1988	All utilities
OR	Solar, wind, fuel cell and hydro ≤25 kW	All customer classes	0.5% of peak demand	Annual NEG granted to low-income programs, credited to customer, or other use determined by Commission	Legislature	1999	All utilities
PA	Renewables and fuel cells ≤10 kW	Residential	None	Monthly NEG granted to utility	Legislature	1998	All utilities
RI	Renewables and fuel cells ≤25 kW	All customer classes	1 MW for Narragansett Electric Company	Annual NEG granted to utilities	Public Utility Commission	1998	Narragansett Electric Company
TX	Renewables only ≤50 kW	All customer classes	None	Monthly NEG purchased at avoided cost	Public Utility Commission	1986	All IOUs and RECs
VT	PV, wind, fuel cells ≤15 kW Farm biogas ≤150 kW	Residential, commercial and agricultural	1% of 1996 peak	Annual NEG granted to utilities	Legislature	1998	All utilities

State	Allowable Technology and Size	Allowable Customer	Statewide Limit	Treatment of Net Excess Generation (NEG)	Authority	Enacted	Scope of Program
VA	Solar, wind and hydro Residential ≤10 kW Non-residential ≤500 kW	All customer classes	0.1% of peak of previous year	Annual NEG granted to utilities (power purchase agreement is allowed)	Legislature	1999	All utilities
WA	Solar, wind, fuel cells and hydro ≤25 kW	All customer classes	0.1% of 1996 peak demand	Annual NEG granted to utility	Legislature	1998	All utilities
WI	All technologies ≤20 kW	All retail customers	None	Monthly NEG purchased at retail rate for renewables, avoided cost for non-renewables	Public Service Commission	1993	IOUs only, RECs are not rate-regulated
WY	Solar, wind, hydro, and biomass ≤ 25 kW	All customer classes	None	Annual NEG purchased at avoided cost	Legislature	2001	All IOUs, RECs, and munis

Source: National Renewable Energy Lab based on original table by Tom Starrs of Kelso Starrs and Associates. July 2004.

<http://www.eere.energy.gov/greenpower/markets/netmetering.shtml>

Notes:

IOU — Investor-owned utility

GandT — Generation and transmission cooperatives

REC — Rural electric cooperative

3.6 – Green Power Markets

There are three distinct markets for green power in the United States. In regulated markets, a single utility may provide a green power option to its customers through “green pricing,” which is an optional service or tariff offered to customers. These utilities include investor-owned utilities, rural electric cooperatives, and other publicly owned utilities. More than 500 utilities in 34 states offer green pricing or are in the process of preparing programs.

In restructured (or competitive) electricity markets, retail electricity customers can choose from among multiple electricity suppliers, some of which may offer green power. Electricity markets are now open to full competition in a number of states, while others are phasing in competition.

Finally, consumers can purchase green power through “renewable energy certificates.” These certificates represent the environmental attributes of renewable energy generation and can be sold to customers in either type of market, whether or not they already have access to a green power product from their existing retail power provider.

Utility market research shows that majorities of customer respondents are likely to state that they would pay at least \$5 more per month for renewable energy. And business and other nonresidential customers, including colleges and universities, and government entities are increasingly interested in green power.

Table 3.6.1. New Renewable Capacity Supplying Green Power Markets as of December 2003 (in MW)

Source	MW in Place	%	MW Planned	%
Wind	1544.6	93.8	306.7	78.0
Biomass	77.4	4.7	60.3	15.3
Solar	5.6	0.3	1.3	0.3
Geothermal	10.5	0.6	25.0	6.4
Small Hydro	9.3	0.6	0.0	0.0
Total	1647.3	100.0	393.4	100.0

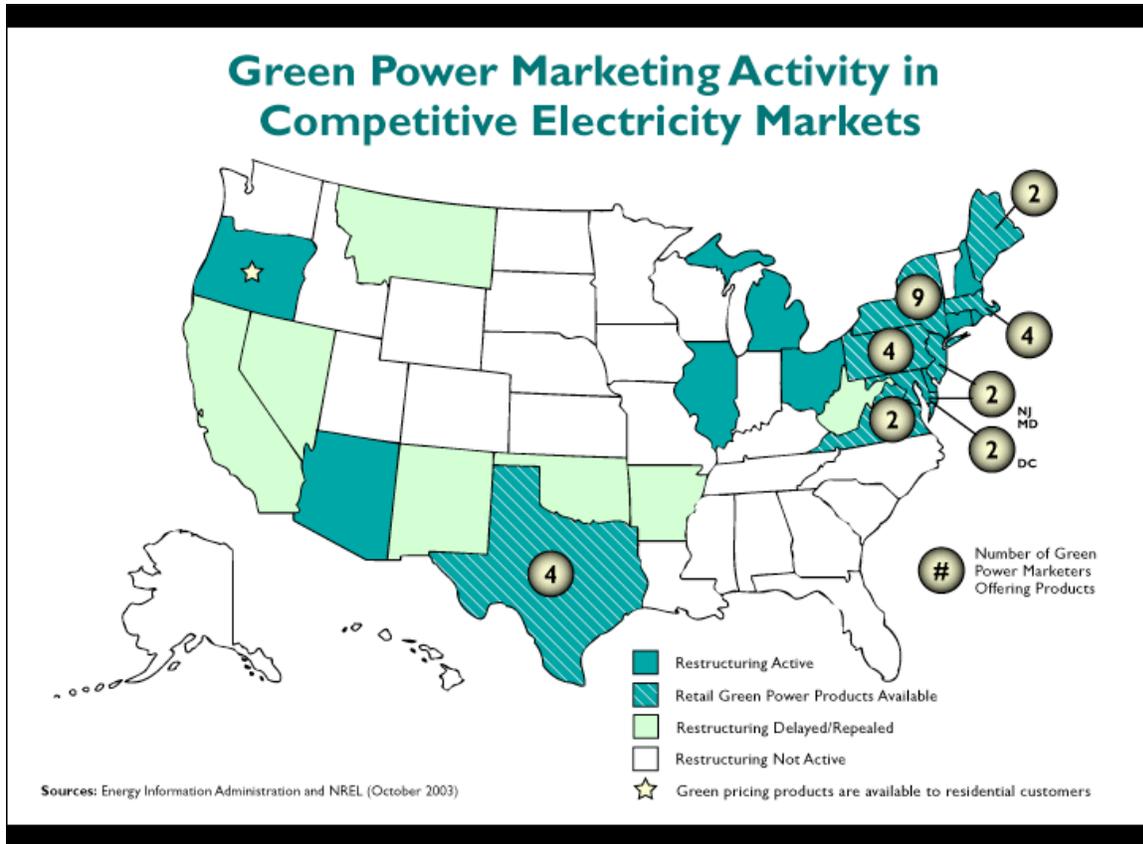
Source: L.Bird and B. Swezey, Estimates of Renewable Energy Capacity Serving U.S. Green Power Markets, National Renewable Energy Laboratory, June 2004.
http://www.eere.energy.gov/greenpower/resources/tables/new_gp_cap.shtml

Table 3.6.2: Estimated Green Power Customers and Sales by Market Segment (2003)

Segment	Customers	Sales (Billions of kWh)*
Utility Green Pricing	265,000	1.3
Competitive Markets	150,000	1.9
REC Markets	5,000	0.7
Retail Total	420,000	3.9
<p>*Includes sales of new and existing renewable energy. Source: Bird, L. and B. Swezey, 2004. <i>Green Power Marketing in the United States: A Status Report (Seventh Edition)</i>, NREL/TP-620-36823. Golden, CO: National Renewable Energy Laboratory, September. http://www.eere.energy.gov/greenpower/pdfs/36823.pdf</p>		

3.7 – States with Competitive Green Power Offerings

Green power marketing refers to selling green power in the competitive marketplace, in which multiple suppliers and service offerings exist. Electricity markets are now open to full competition in a number of states, while others are phasing in competition, allowing some customers to choose their electricity supplier. As of mid-2004, competitive marketers offer green power to retail or wholesale customers in Maine, Maryland, Massachusetts, Pennsylvania, New Jersey, New York, Rhode Island, Texas, Virginia, and the District of Columbia.



Source: L. Bird and B. Swezey, National Renewable Energy Laboratory. Updated July 2004.
<http://www.eere.energy.gov/greenpower/markets/marketing.shtml?page=4>

Figure 3.7.1. Green Power Marketing Map

Table 3.7.1. New Renewables Capacity Supplying Competitive Markets and Renewable Energy Certificates, as of December 2003 (in MW)

Source	MW in Place	%	MW Planned	%
Wind	1,119.2	99.3	173.3	77.5
Biomass	1.7	0.1	50.3	22.5
Solar	0.7	0.1	0.0	0.0
Geothermal	5.0	0.4	0.0	0.0
Small Hydro	0.0	0.0	0.0	0.0
Total	1,126.5	100.0	223.7	100.0
<p>Source: L.Bird and B. Swezey, Estimates of Renewable Energy Capacity Serving U.S. Green Power Markets, National Renewable Energy Laboratory, June 2004. http://www.eere.energy.gov/greenpower/resources/tables/new_gp_cap.shtml</p>				

Table 3.7.2. Competitive Electricity Markets Retail Green Power Product Offerings as of July 2004

State/Company	Product Name	Residential Price Premium ¹	Fee	Resource Mix ²	Certification
District of Columbia					
Washington Gas Energy Services/Community Energy	New Wind Energy	2.5¢/kWh	—	100 kWh blocks of new wind	
PEPCO Energy Services ³	100% Green Electricity	3.41¢/kWh	—	100% biomass	—
	51% Green Electricity	3.05¢/kWh	—	51% biomass and 1% hydro	—
	10% Green Electricity	2.74¢/kWh	—	10% biomass	—
	100% NewWind Energy	4.3¢/kWh		100% new wind	—
	51% NewWind Energy	3.42¢/kWh		51% new wind	—
	Non-residential product	N/A	—	50% to 100% eligible renewables	Green-e
Maine⁴					
Maine Renewable Energy/Maine Interfaith Power & Light	Green Supply	1.5¢/kwh	—	>= 50% small hydro, <=50% wood-fired biomass	—
Constellation New Energy/Maine Power Options	Maine Made (non-residential)	NA	—	50% small hydro and 50% biomass	—
	Commercial Renewable Energy (non-residential)	NA	—	Various	Green-e
Maryland					
Washington Gas Energy Services/Community Energy	New Wind Energy	2.5¢/kWh	—	100 kWh blocks of new wind	—
PEPCO Energy Services ⁵	100% Green Electricity	3.44¢/kWh	—	100% biomass	—
	51% Green Electricity	3.08¢/kWh	—	51% biomass and 1% hydro	—
	10% Green Electricity	2.77¢/kWh		10% biomass, 2% hydro	—
	100% NewWind Energy	4.97¢/kWh		100% new wind	—

	51% NewWind Energy	4.09¢/kWh		51% new wind	—
	Non-residential product	N/A	—	50% to 100% eligible renewables	Green-e
Massachusetts					
Constellation New Energy	Commercial Renewable Energy (non-residential)	NA	—	Various	Green-e
Massachusetts Electric/Nantucket Electric/CET & Conservation Services Group	GreenerWatts New England 100%	1.9¢/kWh	—	75% small hydro, 14% new* landfill gas, 10% wind, 1% new* solar	Green-e
	GreenerWatts New England 50%	0.95¢/kWh	—	37.5% small hydro, 7% new* biomass, 5% wind, 0.5% new* solar	—
Massachusetts Electric/Nantucket Electric/ Community Energy	New Wind Energy 100%	2.4¢/kWh	—	50% small hydro, 50% new* wind	Green-e
	New Wind Energy 50%	1.2¢/kWh	—	25% small hydro, 25% new* wind	Green-e
Massachusetts Electric/Nantucket Electric/ Mass Energy Consumers Alliance	New England GreenStart 100%	2.5¢/kWh		<=70% small hydro, >=19% biomass, 10.5% wind, 0.5% solar (>=25% of all green power is new*)	Green-e
	New England GreenStart 50%	1.25¢/kWh	—	<=36.5% small hydro, >=10% biomass, 5.25% wind, 0.25% solar (>=15% of all green power is new*)	—
Massachusetts Electric/Nantucket Electric/ Sterling Planet	Sterling Premium	1.2¢/kWh	—	65% small hydro, 25% biomass, 10% wind	—
	Sterling Premium Plus	2.2¢/kWh	—	75% small hydro, 15% new* biomass, 10% wind	—

New Jersey					
Constellation New Energy	Commercial Renewable Energy (non-residential)	NA	—	Various	Green-e
Green Mountain Energy Company ⁶	Enviro Blend	0.13¢/kWh	\$3.95/mo.	25% biomass, 20% small hydro, 5% wind, 50% large hydro	Green-e
New York					
1 st Rochdale/Sterling Planet	Sterling Green	1.5¢/kWh	—	40% new wind, 30% small hydro, 30% biogas	Environmental Resources Trust
Agway Energy Products/Sterling Planet	Sterling Green Renewable Electricity	1.5¢/kWh	—	40% new wind, 30% small hydro, 30% biogas	—
ConEdison Solutions ⁷ / Community Energy	GREEN Power / New Wind Energy	0.5¢/kWh	—	25% new wind, 75% small hydro	Green-e
	GREEN Power / New Wind Energy (Non-residential)	NA	—	100% new wind	Green-e
Constellation New Energy	Commercial Renewable Energy (non-residential)	NA	—	Various	Green-e
Energy Cooperative of New York ⁸	Renewable Electricity	0.5¢/kWh to 0.75¢/kWh	—	25% new wind, 75% existing landfill gas	—
Long Island Power Authority / Community Energy	Green Choice / New Wind Energy	2.0¢/kWh		100% new wind	—
	Green Choice / New Wind Energy and Water	1.0¢/kWh		60% new wind, 40% small hydro	—
Long Island Power Authority / EnviroGen	Green Choice / Green Power Program	1.0¢/kWh		75% landfill gas, 25% small hydro	—
Long Island Power Authority / Sterling Planet	Green Choice / Sterling Green	1.5¢/kWh		40% wind, 30% small hydro, 30% bioenergy	—
	Green Choice / New York Clean	1.0¢/kWh		55% small hydro, 35% bioenergy, 10% wind	—

Niagara Mohawk/Community Energy	60% New Wind Energy and 40% Small Hydro	1.0¢/kWh	—	60% new wind, 40% hydro	Green-e
	100% NewWind Energy	2.0¢/kWh	—	100% new wind	Green-e
	Blocks of NewWind Energy	2.0¢/kWh	—	100 kWh blocks of new wind	Green-e
Niagara Mohawk / EnviroGen	Think Green!	1.0¢/kWh	—	75% landfill gas, 25% hydro	—
Niagara Mohawk/Green Mountain Energy	Green Mountain Energy Electricity	1.3¢/kWh	—	50% wind, 50% small hydro	Green-e
Niagara Mohawk/Sterling Planet	Sterling Green	1.5¢/kWh	—	40% wind, 30% small hydro, 30% bioenergy	—
NYSEG / Community Energy	Catch The Wind / New Wind Energy	2.0-2.5¢/kWh	—	100-kWh blocks of new wind	Green-e
Rochester Gas & Electric/Community Energy	Catch the Wind	2.0-2.5¢/kWh	—	100-kWh blocks of new wind	Green-e
Select Energy	Non-residential product	N/A	—	Wind	—
Pennsylvania⁹					
ElectricAmerica	50% Hydro	0.39¢/kWh	—	50% large hydro	—
Energy Cooperative of Pennsylvania	Eco Choice 100	1.08¢/kWh	\$5/year	90% landfill gas, 10% wind, 0.1% solar	Green-e
	New Wind Energy	2.5¢/kWh	—	Wind	—
Green Mountain Energy Company	Green Mountain Energy Electricity	1.37¢/kWh	\$3.95/mo.	10% wind, 90% hydropower	—
	Nature's Choice	1.39¢/kWh	\$3.95/mo.	60% biomass, 30% small hydro, 10% wind, < 1% solar	Green-e
PECO Energy/Community Energy	PECO Wind	2.54¢/kWh	—	100-kWh blocks of new wind	—
PEPCO Energy Services	100% Renewable	3.39¢/kWh	—	100% renewable	—
	51% Green Electricity	3.0¢/kWh	—	51% biomass and 1% hydro	—

	10% Green Electricity	2.67¢/kWh	—	10% biomass	—
	100% NewWind Energy	4.5¢/kWh		100% new wind	—
	51% NewWind Energy	3.57¢/kWh		51% new wind	—
Rhode Island					
Constellation New Energy	Commercial Renewable Energy (non-residential)	NA	—	Various	Green-e
Narragansett Electric / Community Energy, Inc.	NewWind Energy 100%	2.0¢/kWh	—	50% small hydro, 50% new* wind	Green-e
	NewWind Energy 50%	1.0¢/kWh	—	25% small hydro, 25% new* wind	Green-e
Narragansett Electric / Conservation Services Group	GreenerWatts New England 100%	1.7¢/kWh	—	75% small hydro, 14% new* landfill gas, 10% wind, 1% new* solar	Green-e
Narragansett Electric / People's Power & Light	New England GreenStart RI 100%	1.5¢/kWh	—	69% small hydro, 30% new* wind, 1% new* solar	Green-e
	New England GreenStart RI 50%	0.75¢/kWh	—	34.5% small hydro, 15% new* wind, 0.5% new* solar	Green-e
Narragansett Electric / Sterling Planet	Sterling Supreme 100%	1.98¢/kWh	—	40% small hydro, 25% biomass, 25% new* solar, 10% wind,	—
Texas¹⁰					
Green Mountain Energy Company	100% Wind Power	0.66¢/kWh	\$4.95/mo.	100% wind	—
	Reliable Rate Plan	0.46¢/kWh	\$4.95/mo.	Wind and hydro	—
	Month-to-Month Plan	0.26¢/kWh	\$4.95/mo.	Wind and hydro	—
Reliant Energy	Renewable Plan	0.0¢/kWh	\$5.34/mo.	100% renewable energy	—
Strategic Energy	Non-residential product	N/A	—	Wind	—
TXU Energy	Non-residential product	N/A	—	Wind	—

Virginia					
Washington Gas Energy Services/Community Energy	New Wind Energy	2.5¢/kWh	—	100 kWh blocks of new wind	—
PEPCO Energy Services ¹¹	100% Green Electricity	4.367¢/kWh	—	100% biomass	—
	51% Green Electricity	3.997¢/kWh	—	51% biomass and less than 1% hydro	—
	10% Green Electricity	3.687¢/kWh	—	10% biomass	—
	100% NewWind Energy	5.027¢/kWh	—	100% new wind	—
	51% NewWind Energy	4.147¢/kWh	—	51% new wind	—

Source: National Renewable Energy Laboratory.

Notes:

N/A= Not applicable.

¹ Prices may vary by service territory. Prices may also differ for commercial/industrial customers.

² New is defined as operating or repowered after January 1, 1999 based on the Green-e TRC certification standards. New power sources denoted with an asterisk (*) are new as of January 1, 1998.

³ Offered in PEPCO service territory. Product prices are based on annual average costs for customers in PEPCO's service territory (5.04¢/kWh). <http://www.dcpsec.org/customerchoice/whatis/electric/electric.shtm>

⁴ Price premium is for Central Maine Power service territory.

⁵ Product offered in Baltimore Gas and Electric and PEPCO service territories. Price is for PEPCO service territory based on price to compare of 5.01¢/kWh. <http://www.oag.state.md.us/energy/>

⁶ Green Mountain Energy offers products in Conectiv, GPU, and PSE&G service territories. Product prices are for Conectiv service territory (price to compare of 6.75¢/kWh).

⁷ Price premium is based on a comparison to ConEdison Solutions' standard electricity product.

⁸ Price premium is for Niagara Mohawk service territory. Premium varies depending on energy taxes.

⁹ Product prices are for PECO service territory (price to compare of 6.17¢/kWh).

<http://www.oca.state.pa.us/elecomp/pricecharts.html>

¹⁰ Product prices are based on price to beat of 10.4¢/kWh for TXU service territory (ONCOR).

<http://www.powertochoose.org/>

¹¹ Products are only available in Dominion Virginia Power service territory. Price is based on price to compare of 3.983¢/kWh

References:

Green power marketer and utility Web sites.

District of Columbia Public Service Commission

<http://www.dcpsec.org/customerchoice/whatis/electric/electric.shtm>

Maryland Attorney General Electricity Supplier Rate and Service Information <http://www.oag.state.md.us/energy/>

Pennsylvania Office of Consumer Advocate Residential Price Comparison Charts

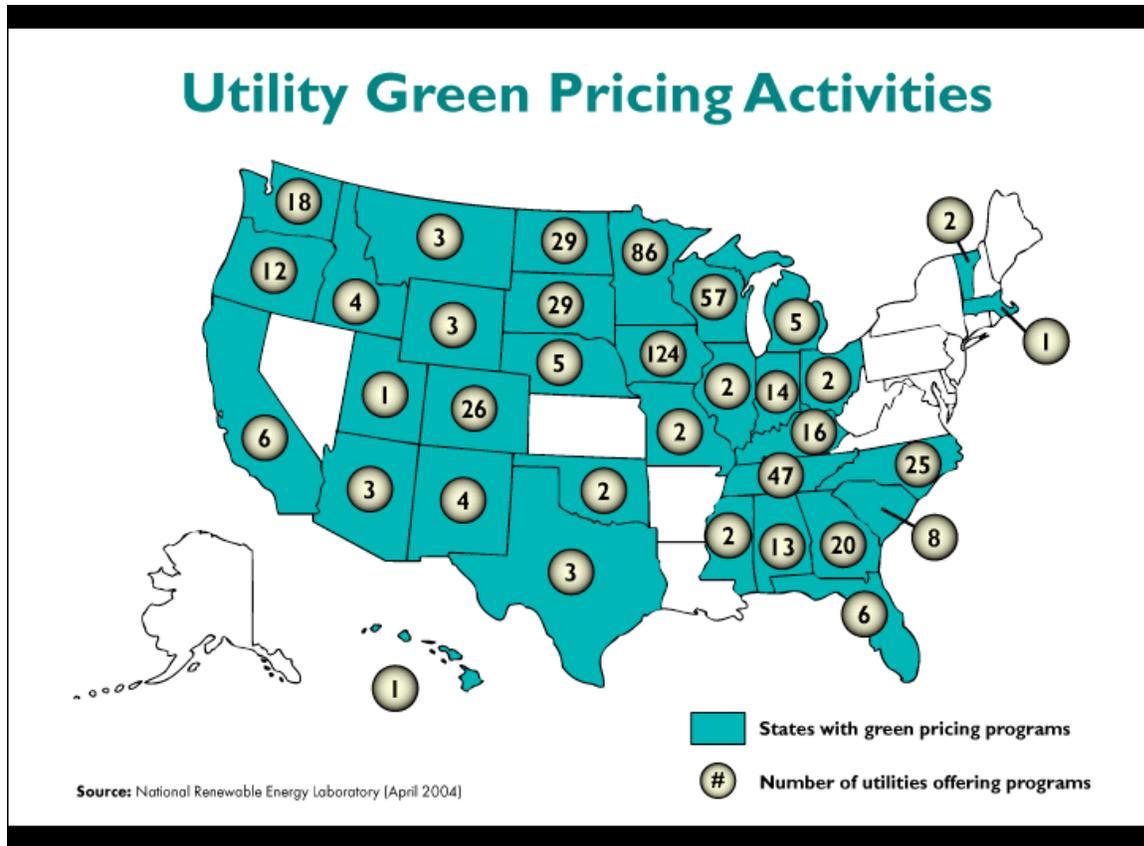
<http://www.oca.state.pa.us/elecomp/pricecharts.html>

Virginia's State Corporation Commission <http://www.yesvachoice.com/howtochoose/howtocompare.asp>

Texas Public Utility Commission <http://www.powertochoose.org/>

3.8 – States with Utility Green Pricing Programs

Green pricing is an optional utility service that allows customers an opportunity to support a greater level of utility company investment in renewable energy technologies. Participating customers pay a premium on their electric bill to cover the extra cost of the renewable energy. Many utilities are offering green pricing to build customer loyalty, as well as expand business lines and expertise prior to electric market competition. To date, more than 500 investor-owned, municipal, and cooperative utilities in 34 states have either implemented or announced plans to offer a green pricing option.



Source: L. Bird and B. Swezey, National Renewable Energy Laboratory. Updated April 2004.
<http://www.eere.energy.gov/greenpower/markets/pricing.shtml?page=4>

Figure 3.8.1. Number of Utilities Offering Green Pricing Programs by State

Table 3.8.1. New Renewables Capacity Supported through Utility Green Pricing Programs, as of December 2003 (in MW)

Source	MW in Place	%	MW Planned	%
Wind	425.4	81.7	133.4	78.6
Biomass	75.7	14.5	10.0	5.9
Solar	4.9	0.9	1.3	0.8
Geothermal	5.5	1.1	25.0	14.7
Small Hydro	9.3	1.8	0.0	0.0
Total	520.8	100.0	169.7	100.0

Source: L.Bird and B. Swezey, Estimates of Renewable Energy Capacity Serving U.S. Green Power Markets, National Renewable Energy Laboratory, June 2004. http://www.eere.energy.gov/greenpower/resources/tables/new_gp_cap.shtml

Table 3.8.2. Utility Green Pricing Programs, April 2004

State	Utility Name	Program Name	Resource Type	Start Date	Premium
AL	Alabama Power	Renewable Energy Rate	biomass co-firing	2003/2000	6.0¢/ kWh
AL	TVA: City of Athens Electric Department, Cullman Electric Coop, Cullman Power Board, Decatur Utilities, Florence Utilities, Hartselle Utilities, Huntsville Utilities, Joe Wheeler EMC, Muscle Shoals Electric Board, Scottsboro Electric Power Board, Sheffield Utilities, Tuscumbia Electric Department	Green Power Switch	wind, landfill gas, solar	2000	2.67¢/ kWh
AZ	Arizona Public Service	Solar Partners Program	central PV	1997	\$2.64/ 15kWh
AZ	Salt River Project	EarthWise Energy	central PV, landfill gas, small hydro	1998/2001	3.0¢/kWh
AZ	Tucson Electric	GreenWatts	landfill gas, PV, wind	2000	7.5-10¢/ kWh
CA	City of Alameda	Clean Future Fund	various, electric vehicles	1999	1.0¢/kWh
CA	City of Palo Alto Utilities/3 Phases Energy Services	Palo Alto Green	wind, solar	2003/2000	1.5¢/kWh
CA	Los Angeles Dept. of Water and Power	Green Power for a Green LA	wind, landfill gas	1999	3.0¢/kWh
CA	Pasadena Water & Power	Green Power	wind	2003	2.5¢/kWh
CA	Roseville Electric	RE Green Energy Program	geothermal, hydro, PV	2000	1.0¢/kWh

CA	Sacramento Municipal Utility District	Greenenergy	wind, landfill gas, hydro	1997	1.0¢/kWh
CA	Sacramento Municipal Utility District	PV Pioneers I	PV	1993	\$4/month
CO	Colorado Springs Utilities	Green Power	wind	1997	3.0¢/kWh
CO	Holy Cross Energy	Local Renewable Energy Pool	small hydro, PV	2002	3.3¢/kWh
CO	Holy Cross Energy	Wind Power Pioneers	wind	1998	2.5¢/kWh
CO	Platte River Power Authority (Estes Park, Fort Collins Utilities, Longmont Power & Communications, Loveland Water & Light)	Wind Power Program	wind	1996	2.5¢/kWh
CO	Tri-State Generation & Transmission (18 of 44 coops): Carbon Power, Chimney Rock, Gunnison County Electric, Kit Carson, La Plata Electric, Mountain Parks Electric, Mountain View Electric, New Mexico, Northwest Rural, Poudre Valley Rural Electric Association, Public Power District, Sangre, San Isabel Electric, San Luis Valley Rural Electric Coop, San Miguel Power, Springer Electric, United Power, White River	Renewable Resource Power Service	wind, landfill gas	1999	2.5¢/kWh
CO	Xcel Energy	WindSource	wind	1997	2.5¢/kWh
CO	Xcel Energy	Renewable Energy Trust	PV	1993	Contribution
CO	Yampa Valley Electric Association	Green Power	wind	1999	3.0¢/kWh
FL	City of Tallahassee/Sterling Planet	Green for You	biomass, solar	2002	1.6¢/kWh
FL	City of Tallahassee/Sterling Planet	Green for You	solar only	2002	11.6¢/kWh
FL	Florida Power & Light/Green Mountain Energy	Sunshine Energy	biomass, wind, solar	2004	0.975¢/kWh
FL	Gainesville Regional Utilities	GRUGreen Energy	landfill gas, wind, solar	2003	2.0¢/kWh
FL	Southern Company: Gulf Power Company	EarthCents Solar	PV in schools; central PV	1996/1999	Contribution; \$6.00/ 100 watts
FL	Tampa Electric Company (TECO)	Tampa Electric's Renewable Energy Program	PV, landfill gas	2000	10.0¢/kWh
FL	Utilities Commission City of New Smyrna Beach	Green Fund	local PV projects	1999	Contribution
GA	Georgia Electric Membership Corporation (16 of 42 coops offer program): Carroll EMC, Coastal Electric, Cobb EMC, Coweta-Fayette EMC, Flint Energies, GreyStone Power, Habersham EMC, Irwin EMC, Jackson EMC, Jefferson Energy, Lamar EMC, Ocmulgee EMC, Sawnee EMC, Snapping Shoals EMC, Tri-County EMC, Walton EMC of Monroe	Green Power EMC	landfill gas	2001	TBD
GA	Georgia Power	Green Energy	landfill gas, wind, solar	TBD	5.5¢/kWh
GA	Savannah Electric	Green Energy	landfill gas, wind, solar	TBD	6.0¢/kWh

GA	TVA: Blue Ridge Mountain Electric Membership Corporation, North Georgia Electric Membership Corporation	Green Power Switch	wind, landfill gas, solar	2000	2.67¢/ kWh
HI	Hawaiian Electric	Sun Power for Schools	PV in schools	1996	Contribution
IA	Alliant Energy	Second Nature	wind, landfill gas	2001	2.0¢/kWh
IA	Basin Electric Power Cooperative: Lyon Rural, Harrison County, Nishnabotna Valley Cooperative, Northwest Rural Electric Cooperative, Western Iowa	Prairie Winds	wind	2000	1.0¢/kWh
IA	Cedar Falls Utilities	Wind Energy Electric Project	wind	1999	Contribution
IA	Corn Belt Power Cooperatives: (11 co-ops and 1 municipal cooperative) Boone Valley Electric Cooperative, Butler County REC, Calhoun County REC, Franklin REC, Glidden REC, Grundy County REC, Humboldt County REC, Iowa Lakes Electric Cooperative, Midland Power Cooperative, Prairie Energy Cooperative, Sac County REC, North Iowa Municipal Electric Cooperative Association	Varies by Utility	wind	2004	Contribution
IA	Dairyland Power Cooperative: Allamakee-Clayton/Postville, Hawkeye Tri-County/Cresco, Heartland Power/Thompson & St. Ansgar	Evergreen Renewable Energy Program	wind	1997	3.0¢/kWh
IA	Farmers Electric Cooperative	Green Power Project	biodiesel, wind	2004	Contribution
IA	Iowa Association of Municipal Utilities (80 of 137 participating) Afton, Algona, Alta Vista, Aplington, Auburn, Bancroft, Bellevue, Bloomfield, Breda, Brooklyn, Buffalo, Burt, Callender, Carlisle, Cascade, Coggon, Coon Rapids, Corning, Corwith, Danville, Dayton, Durant, Dysart, Earlville, Eldridge, Ellsworth, Estherville, Fairbank, Farnhamville, Fontanelle, Forest City, Gowrie, Grafton, Grand Junction, Greenfield, Grundy Center, Guttenberg, Hopkinton, Hudson, Independence, Keosauqua, La Porte City, Lake Mills, Lake View, Laurens, Lenox, Livermore, Maquoketa, Marathon, McGregor, Milford, Montezuma, Mount Pleasant, Neola, New Hampton, Ogden, Orient, Osage, Panora, Pella, Pocahontas, Preston, Readlyn, Rockford, Sabula, Sergeant Bluff, Sibley, Spencer, Stanhope, State Center, Stratford, Strawberry Point, Stuart, Tipton, Villisca, Vinton, Webster City, West Bend, West Liberty, West Point, Westfield, Whittemore, Wilton, Winterset	Green City Energy	wind, biomass, solar	2003	Varies by utility
IA	MidAmerican Energy	Renewable Advantage	wind	2004	Contribution

IA	Missouri River Energy Services (MRES): Alton, Atlantic, Denison, Fontanelle, Hartley, Hawarden, Kimballton, Lake Park, Manilla, Orange City, Paullina, Primghar, Remsen, Rock Rapids, Sanborn, Shelby, Sioux Center, Woodbine	RiverWinds	wind	2003	2.0 - 2.5¢/kWh
IA	Muscatine Power and Water	Solar Muscatine	solar	2004	Contribution
IA	Waverly Light & Power	Iowa Energy Tags	wind	2001	2.0¢/kWh
ID	Avista Utilities	Buck-A-Block	wind	2002	1.8¢/kWh
ID	Idaho Power	Green Power Program	various	2001	Contribution
ID	PacifiCorp: Utah Power	Blue Sky	wind	2003	1.95¢/kWh
ID	Vigilante Electric Cooperative	Alternative Renewable Energy Program	wind, solar, hydro	2003	1.1¢/kWh
IL	City of St. Charles/ComEd and Community Energy, Inc.	TBD	wind, landfill gas	2003	Contribution
IL	Dairyland Power Cooperative: Jo-Carroll Energy/Elizabeth	Evergreen Renewable Energy Program	wind	1997	3.0¢/kWh
IN	Hoosier Energy (5 of 17 coops): Southeastern Indiana REMC, South Central Indiana REMC, Utilities District of Western Indiana REMC, Decatur County REMC, Daviess-Martin County REMC	EnviroWatts	landfill gas	2001	2.0¢/kWh - 4.0¢/kWh
IN	Indianapolis Power & Light	Elect PlanSM Green Power Program	geothermal	1998	0.9¢/kWh
IN	PSI Energy/Cinergy	Green Power Rider	wind, solar, landfill gas, digester gas	2001	Contribution
IN	Wabash Valley Power Association (7 of 27 coops offer program): Boone REMC, Hendricks Power Cooperative, Kankakee Valley REMC, Miami-Cass REMC, Tipmont REMC, White County REMC, Northeastern REMC	EnviroWatts	landfill gas	2000	0.9-1.0¢/kWh
KY	East Kentucky Power Cooperative: Bluegrass, Clark, Inter County Energy Cooperative, Owen, Nolin, Salt River, Grayson, South Kentucky, Shelby, Cumberland, Licking, Jackson, Mason, Fleming	EnviroWatts	landfill gas	2002	2.75¢/kWh
KY	TVA: Bowling Green Municipal Utilities, Franklin Electric Plant Board	Green Power Switch	landfill gas, solar, wind	2000	2.67¢/kWh
MA	Concord Municipal Light Plant (CMLP)	Green Power	hydro	2004	3.0¢/kWh
MI	Consumers Energy	Green Power Pilot Program	wind	2001	3.2¢/kWh
MI	DTE Energy	Solar Currents	central PV	1996	\$6.94/100 watts
MI	Lansing Board of Water and Light	GreenWise Electric Power	landfill gas, small hydro	2001	3.0¢/kWh
MI	Traverse City Light and Power	Green Rate	wind	1996	1.58¢/kWh
MI	We Energies	Energy for Tomorrow	wind, landfill gas, hydro	2000	2.04¢/kWh

MN	Alliant Energy	Second Nature	wind, landfill gas	2002	2.0¢/kWh
MN	Basin Electric Power Cooperative: Minnesota Valley Electric Coop, Sioux Valley Southwestern	Prairie Winds	wind	2000	1.0¢/kWh
MN	Dairyland Power Cooperative: Freeborn-Mower Cooperative/Albert Lea, People's/Rochester, Tri-County/Rushford	Evergreen Renewable Energy Program	wind	1997	3.0¢/kWh
MN	Great River Energy (28) : Agralite Electric Cooperative, Arrowhead Electric Cooperative, BENCO Electric, Brown County Rural Electric, Connexus Energy, Co-op Light & Power, Crow Wing Power, Dakota Electric Association, East Central Electric Association, Federated Rural Electric, Goodhue County, Itasca Mantrap Cooperative, Kandiyohi Power Cooperative, Lake Country Power, Lake Region Electric Cooperative, McLeod Cooperative Power, Meeker Cooperative Light & Power, Mille Lacs Electric Cooperative, Minnesota Valley Electric Cooperative, Nobles Cooperative Electric, North Itasca, Redwood Electric Cooperative, Runestone Electric, South Central Electric Association, Stearns Electric, Steele-Waseca, Todd-Wadena, Wright-Hennepin Electric	Wellspring	wind	1997	1.45-2.0¢/kWh
MN	Minnesota Power	WindSense	wind	2002	2.5¢/kWh
MN	Minnkota Power Cooperative: Beltrami, Clearwater Polk, North Star, PKM, Red Lake, Red River, Roseau, Wild Rice, Thief River Falls	Infinity Wind Energy	wind	1999	1.5¢/kWh
MN	Missouri River Energy Services (39 of 55): Adrian, Alexandria, Barnesville, Benson, Breckenridge, Detroit Lakes, Elbow Lake, Henning, Jackson, Lakefield, Lake Park, Luverne, Madison, Moorhead, Ortonville, St. James, Sauk Centre, Staples, Wadena, Westbrook, Worthington	RiverWinds	wind	2002	2.0-2.5¢/kWh
MN	Moorhead Public Service	Capture the Wind	wind	1998	1.5¢/kWh
MN	Otter Tail Power	TailWinds	wind	2002	2.6¢/kWh
MN	Southern Minnesota Municipal Power Agency (all 18 munis offer program): Fairmont Public Utilities, Wells Public Utilities, Austin Utilities, Preston Public Utilities, Spring Valley Utilities, Blooming Prairie Public Utilities, Rochester Public Utilities, Owatonna Public Utilities, Waseca Utilities, St. Peter Municipal Utilities, Lake City Utilities, New Prague Utilities Commission, Redwood Falls Public Utilities, Litchfield Public Utilities, Princeton Public Utilities, North Branch Water and Light, Mora Municipal Utilities, Grand Marais Public Utilities	Wind Power	wind	2000	1.0¢/kWh
MN	Xcel Energy	WindSource	wind	2003	2.0¢/kWh

MO	Boone Electric Cooperative	Renewable Choice	wind	2003	2.0¢/kWh
MO	City Utilities of Springfield	WindCurrent	wind	2000	5.0¢/kWh
MS	TVA: City of Oxford, North East Mississippi Electric Power Association, Starkville Electric System	Green Power Switch	wind, landfill gas, solar	2000	2.67¢/kWh
MT	Basin Electric Power Cooperative: Lower Yellowstone	Prairie Winds	wind	2000	1.0¢/kWh
MT	Northwestern Energy	E+ Green	wind, solar	2003	2.0¢/kWh
MT	Vigilante Electric Cooperative	Alternative Renewable Energy Program	wind, solar, hydro	2003	1.1¢/kWh
NC	Dominion North Carolina Power, Duke Power, Progress Energy/CP&L ElectriCities (7 of 57) City of High Point, City of Laurinburg, City of Newton, City of Shelby, City of Statesville, Town of Apex, Town of Granite Falls NC Electric Cooperatives (14 of 27 cooperatives offer the program): Blue Ridge Electric Membership Corp., Brunswick Electric Membership Corp., Carteret Craven Electric Coop., Edgecombe-Martin County Electric Membership Corp., EnergyUnited, Four County Electric Membership Corp., Haywood Electric Membership Corp., Jones-Onslow Electric Membership Corp., Pee Dee Electric Membership Corp., Piedmont Electric Membership Corp., Randolph Electric Membership Corp., Roanoke Electric Membership Corp., Tri-County Electric Membership Corp., Wake Electric Membership Corp.	NC GreenPower	biomass, wind, solar	2003	4.0¢/kWh
NC	TVA: Mountain Electric Cooperative	Green Power Switch	landfill gas, solar, wind	2000	2.67¢/kWh
ND	Basin Electric Power Cooperative (49 coops offer program in 5 states): Oliver Mercer Electric Coop, Mor-gran-sou Electric Coop, KEM Electric Coop, North Central Electric Coop, Verendrye, Capital, Northern Plains, Dakota Valley, Burke Divide, Montrail Williams, McKenzie Electric Coop, West Plains, Slope Electric Coop	PrairieWinds	wind	2000	1.0¢/kWh
ND	Minnkota Power Cooperative: Cass County Electric, Cavalier Rural Electric, Nodak Electric, Northern Municipal Power Agency (12 municipals)	Infinity Wind Energy	wind	1999	1.5¢/kWh
ND	Missouri River Energy Services: City of Lakota	RiverWinds	wind	2002	2.0-2.5¢/kWh
NE	Lincoln Electric System	Renewable Energy Program	wind	1998	4.3¢/kWh
NE	Nebraska Public Power District	Prairie Power Program	TBD	1999	Contribution
NE	Omaha Public Power District	Green Power Program	landfill gas, wind	2002	3.0¢/kWh

NE	Tri-State: Chimney Rock Public Power District, Northwest Rural Public Power District	Renewable Resource Power Service	wind, landfill gas	2001	2.5¢/kWh
NM	El Paso Electric	Renewable Energy Tariff	wind	2003	3.19¢/kWh
NM	Public Service of New Mexico	PNM Sky Blue	wind	2003	1.8¢/kWh
NM	Tri-State: Kit Carson Electric Cooperative	Renewable Resource Power Service	wind, landfill gas	2001	2.5¢/kWh
NM	Xcel Energy	WindSource	wind	1999	3.0¢/kWh
OH	AMP Ohio/Green Mountain Energy: Cuyahoga Falls	Nature's Energy	small hydro, wind, landfill gas	2003	1.3¢/kWh
OH	City of Bowling Green	Bowling Green Power	small hydro, wind, landfill gas	1999	1.35¢/kWh
OK	Edmond Electric	Pure & Simple	wind	2004	1.8¢/kWh
OK	OG&E Electric Services	Wind Power	wind	2003	0.63¢/kWh
OR	City of Ashland/Bonneville Environmental Foundation	Renewable Pioneers	solar	2003	2.0¢/kWh
OR	Emerald People's Utility District/Green Mountain Energy	Choose Renewable Electricity	wind, geothermal	2003	0.78-1.2¢/kWh
OR	Eugene Water & Electric Board	EWEB Wind Power	wind	1999	1.3¢/kWh
OR	Midstate Electric Cooperative	Environmentally Preferred Power	wind, small hydro	1999	2.5¢/kWh
OR	Oregon Trail Electric Cooperative	Green Power	wind	2002	1.5¢/kWh
OR	Pacific Northwest Generating Cooperative (5 of 16 coops offer program): Central Electric Cooperative, Clearwater Power, Consumers Power, Douglas Electric Cooperative, Umatilla Electric Cooperative	Green Power	landfill gas	1998	1.8-2.0¢/kWh
OR	PacifiCorp: Pacific Power	Blue Sky Block	wind	2000	1.95¢/kWh
OR	PacifiCorp: Pacific Power/3 Phases Energy Services	Blue Sky Usage	existing geothermal, wind	2002	0.78¢/kWh
OR	PacifiCorp: Pacific Power/3 Phases Energy Services	Blue Sky Habitat	existing geothermal, wind	2002	0.78¢/kWh + \$2.50 donation
OR	Portland General Electric/Green Mountain Energy	Green Mountain Renewable Energy Usage	existing geothermal, wind	2002	0.8¢/kWh
OR	Portland General Electric/Green Mountain Energy	Healthy Habitat	existing geothermal, wind	2002	0.99¢/kWh
OR	Portland General Electric Company	Clean Wind for Medium to Large Commercial and Industrial Accounts	wind	2003	1.5-1.7¢/kWh
OR	Portland General Electric Company	Clean Wind Power	wind	2000	3.5¢/kWh

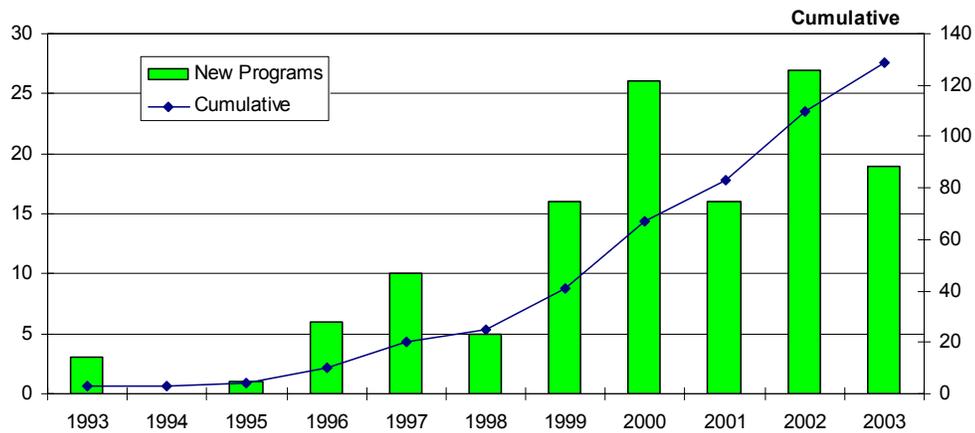
SC	Santee Cooper, Aiken Electric Cooperative, Berkeley Electric Cooperative, Horry Electric Cooperative, Mid-Carolina Electric Cooperative, Palmetto Electric Cooperative, Santee Electric Cooperative, Tri-County Electric Cooperative	Green Power Program	landfill gas	2001	3.0¢/kWh
SD	Basin Electric Power Cooperative: Bon Homme-Yankton Electric Assn., Central Electric Cooperative Association, Charles Mix Electric Association, City of Elk Point, Clay-Union Electric Corporation, Codington-Clark Electric Cooperative, Dakota Energy Cooperative, Douglas Electric Cooperative, FEM Electric Association, H-D Electric Cooperative, Kingsbury Electric Cooperative, Lyon-Lincoln Electric Cooperative, McCook Electric Cooperative, Northern Electric Cooperative, Oahe Electric Cooperative, Renville-Sibley Coop, Sioux Valley Southwestern Electric Coop, Southeastern Electric Coop, Union County Electric Cooperative, Whetstone Valley Electric Cooperative, Black Hills Electric Coop, LaCreek Electric Coop, West River Power Association, Butte Electric Coop, Cherry Todd Electric Coop, Moreau Grand, Grand Electric Cooperative, Rosebud	Prairie Winds	wind	2000	1.0¢/kWh
SD	Missouri River Energy Services: City of Vermillion	RiverWinds	wind	2002	2.0-2.5¢/kWh

TN	Alcoa Electric Department, Appalachian Electric Cooperative, Athens Utility Board, Bristol Tennessee Electric System, Caney Fork Electric Cooperative, City of Maryville Electric Department, Clarksville Department of Electricity, Cleveland Utilities, Clinton Utilities Board, Cookeville Electric Department, Cumberland Electric Membership Corporation, Dickson Electric Department, Duck River Electric Membership Corporation, Elizabethton Electric System, EPB (Chattanooga), Erwin Utilities, Fayetteville Public Utilities, Gibson Electric Membership Corporation, Greeneville Light and Power System, Harriman Utility Board, Johnson City Power Board, Jackson Energy Authority, Knoxville Utilities Board, LaFollette Utilities Board, Lawrenceburg Power System, Lenoir City Utilities Board, Loudon Utilities, McMinnville Electric System, Meriwether Lewis Electric Cooperative, Middle Tennessee Electric Membership Corporation, Morristown Power System, Mountain Electric Cooperative, Murfreesboro Electric Department, Nashville Electric Service, Newport Utilities, Oak Ridge Electric Department, Paris Board of Public Utilities, Plateau Electric Cooperative, Powell Valley Electric Cooperative, Pulaski Electric System, Sequachee Valley Electric Cooperative, Sevier County Electric System, Springfield Department of Electricity, Sweetwater Utilities Board, Tullahoma Utilities Board, Upper Cumberland Electric Membership Corporation, Volunteer Energy Cooperative	Green Power Switch	biogas, solar, wind	2000	2.67¢/kWh
TX	Austin Energy	GreenChoice	wind, hydro, landfill gas	2000/1997	0.5¢/kWh
TX	City Public Service of San Antonio	Windtricity	wind	2000	3.0¢/kWh
TX	El Paso Electric	Renewable Energy Tariff	wind	2001	1.92¢/kWh
UT	PacifiCorp: Utah Power	Blue Sky	wind	2000	1.95¢/kWh
VT	Central Vermont Public Service	CVPS Cow Power	biogas	TBD	4¢/kWh
VT	Green Mountain Power	CoolHome, CoolBusiness	wind, biomass	2002	Contribution
WA	Avista Utilities	Buck-A-Block	wind	2002	1.82¢/kWh
WA	Benton County Public Utility District	Green Power Program	landfill gas, wind	1999	Contribution
WA	Chelan County PUD	Sustainable Natural Alternative Power (SNAP)	PV, wind, micro hydro	2001	Contribution
WA	Clallam County PUD	Green Power Rate	landfill gas	2001	0.7¢/kWh
WA	Clark Public Utilities	Green Lights	PV, wind	2002	1.5¢/kWh

WA	Cowlitz PUD	Renewable Resource Energy	wind, PV	2002	2.0¢/kWh
WA	Grant County PUD	Alternative Energy Resources Program	wind	2002	2.0¢/kWh
WA	Grays Harbor PUD	Green Power Program	wind	2002	3.0¢/kWh
WA	Lewis County PUD	Green Power Energy Rate	wind	2003	2.0¢/kWh
WA	Mason County PUD No. 3	Mason EverGreen Power	wind	2003	2.0¢/kWh
WA	Orcas Power & Light	Go Green	small hydro, wind, PV	1997	3.5¢/kWh
WA	Pacific County PUD	Green Power	wind, hydro	2002	1.05¢/kWh
WA	PacifiCorp: Pacific Power	Blue Sky	wind	2000	1.95¢/kWh
WA	Peninsula Light	Green by Choice	wind, hydro	2002	2.8¢/kWh
WA	Puget Sound Energy	Green Power	wind, solar	2002	2.0¢/kWh
WA	Seattle City Light	Seattle Green Power Program	solar, wind, biogas	2002	Contribution
WA	Snohomish County PUD	Planet Power	wind	2002	2.0¢/kWh
WA	Tacoma Power	EverGreen Options	small hydro, wind	2000	Contribution
WI	Alliant Energy	Second Nature	wind, landfill gas	2000	2.0¢/kWh
WI	Dairyland Power Cooperative: Barron Electric, Bayfield/Iron River, Chippewa/Cornell Valley, Clark/Greenwood, Dunn/Menomonie, Eau Claire/Fall Creek, Jackson/Black River Falls, Jump River/Ladysmith, Oakdale, Pierce-Pepin/Ellsworth, Polk-Burnett/Centuria, Price/Phillips, Richland, Riverland/Arcadia, St. Croix/Baldwin, Scenic Rivers/Lancaster, Taylor/Medford, Vernon/Westby	Evergreen Renewable Energy Program	wind	1997	3.0¢/kWh
WI	Great River Energy: Head of the Lakes	Wellspring	wind	1997	1.28-2.0¢/kWh
WI	Madison Gas & Electric	Wind Energy Program	wind	1999	3.33¢/kWh
WI	We Energies	Energy for Tomorrow	landfill gas, hydro, wind	1996	2.04¢/kWh
WI	Wisconsin Public Power Inc. (34 of 37 munis offer program): Algoma, Cedarburg, Florence, Kaukauna, Muscoda, Stoughton, Reedsburg, Oconomowoc, Waterloo, Whitehall, Columbus, Hartford, Lake Mills, New Holstein, Richland Center, Boscobel, Cuba City, Hustisford, Sturgeon Bay, Waunakee, Lodi, New London, Plymouth, River Falls, Sun Prairie, Waupun, Eagle River, Jefferson, Menasha, New Richmond, Prairie du Sac, Slinger, Two Rivers, Westby	Renewable Energy Program	small hydro, wind, biogas	2001	2.0¢/kWh
WI	Wisconsin Public Service	NatureWise	Wind, landfill gas, biogas	2002	2.65¢/kWh

WI	Wisconsin Public Service	SolarWise for Schools	PV installations on schools	1997	Contribution
WY	Lower Valley Energy	Green Power	wind	2003	1.67¢/kWh
WY	PacifiCorp: Pacific Power	Blue Sky	wind	2000	1.95¢/kWh
WY	Tri-State: Carbon Power & Light	Renewable Resource Power Service	wind, landfill gas	2001	2.5¢/kWh

Source: L. Bird and B. Swezey, National Renewable Energy Laboratory
<http://www.eere.energy.gov/greenpower/markets/pricing.shtml?page=1>



Source: L. Bird and B. Swezey, 2004.

Figure 3.8.2. Growth Trend in Utility Green Pricing Programs, 1993-2003

Table 3.8.3. Estimated Cumulative Number of Customers Participating in Utility Green Pricing Programs

Customer Segment	1999	2000	2001	2002	2003
Residential	n/a*	131,000	166,300	224,500	258,700
Nonresidential	n/a*	1,700	2,500	3,900	6,500
Total	66,900	132,700	168,800	228,400	265,000
% Nonresidential	n/a	1.3%	1.5%	1.7%	2.4%

*Information on customer segments was not collected in 1999.

Source: Bird, L., and K. Cardinal, 2004. *Trends in Utility Green Pricing Programs (2003)*, NREL/TP-620-36833. Golden, CO: National Renewable Energy Laboratory, September.

<http://www.eere.energy.gov/greenpower/pdfs/36833.pdf>

Table 3.8.4. Customer Participation Rates in Utility Green Pricing Programs

Participation Rate	1999	2000	2001	2002	2003
Average	0.9%	1.2%	1.3%	1.2%	1.2%
Median	0.8%	0.7%	0.7%	0.8%	0.9%
Top 10 programs	2.1%-4.7%*	2.6%-7.3%	3.0%-7.0%	3.0%-5.8%	3.9%-11.1%
*Data for April 2000 Source: Bird and Cardinal, 2004.					

Table 3.8.5. Annual Sales of Green Energy through Utility Green Pricing Programs (millions of kWh)

Segment	2000	2001	2002	2003
Residential customers	---	399.7	661.3	874.1
Nonresidential customers	---	172.8	233.7	410.3
All customers	453.7	572.5	895.0	1,284.4
% Nonresidential	---	30%	26%	32%
*Sales information for customer segments not available for 2000. Source: Bird and Cardinal, 2004.				

3.9 – Renewable Energy Certificates

Renewable energy certificates (RECs)—also known as green tags, renewable energy credits, or tradeable renewable certificates—represent the environmental attributes of power generated from renewable electric plants. A number of organizations offer green energy certificates separate from electricity service (i.e., customers do not need to switch from their current electricity supplier to purchase these certificates). Organizations that offer green certificate products are listed below.

Table 3.9.1. Renewable Energy Certificate Product Offerings, July 2004

Certificate Marketer	Product Name	Renewable Resources	Location of Renewable Resources	Residential Price Premium *	Certification
3 Phases Energy Services	Green Certificates	100% new wind	Nationwide	2.0¢/kWh	Green-e
Aquila, Inc.	Aquila Green Credits (non-residential only)	100% new wind	Kansas	N/A	Green-e
Bonneville Environmental Foundation	Green Tags	≥98% new wind, ≤ 1% new solar, ≤ 1% new biomass	Washington, Oregon, Wyoming, Montana, Nevada	2.0¢/kWh	Green-e
Community Energy	New Wind Energy	100% new wind	Pennsylvania, West Virginia	2.5¢/kWh	Green-e
EAD Environmental	100% Wind Renewable Energy Certificates	100% new wind	Nationwide	1.5¢/kWh	(Green-e for non-residential only)
	Home Grown Hydro Certificates	100% small hydro (<5MW)	New England	1.2¢/kWh	(Green-e for non-residential only)
Green Mountain Energy	TRCs (non-residential only)	100% renewable	Nationwide	N/A	Green-e
Maine Interfaith Power & Light/BEF	Green Tags (supplied by BEF)	≥98% new wind, ≤ 1% new solar, ≤ 1% new biomass	Washington, Oregon, Wyoming, Montana, Nevada	2.0¢/kWh	Green-e
Maine Interfaith Power & Light	First Wind of Maine	100% wind	Maine	4.0¢/kwh	—
Maine Power Options	MPO MaineMade Certificates (non-residential only)	50% hydro, 50% biomass	Maine	NA	—

Mass Energy/People's Power and Light	New England Wind	100% new wind	Massachusetts	5.0¢/kWh	—
Mainstay Energy	Fossil Free 100% Renewable	100% renewable	Nationwide	2.0¢/kWh	Green-e
	Fossil Free 100% Wind	100% wind	Nationwide	2.5¢/kWh	Green-e
	Fossil Free 100% Solar	100% solar	Nationwide	20¢/kWh	Green-e
NativeEnergy	WindBuilders	100% new wind	South Dakota	1.0¢/kWh \$10 per ton of CO2 avoided	**
	CoolHome	New biogas and new wind	Vermont and Pennsylvania (biomass), South Dakota (wind)	1.0¢/kWh \$10 per ton of CO2 avoided	**
	WindBuilders Business Partners (non-residential only)	100% new wind	South Dakota Minnesota	<1.0¢/kWh <\$10 per ton of CO2 avoided	**
NUON Renewables Ventures	PVUSA Solar TRCs (non-residential)	100% solar	California	NA	Green-e
Pacific Renewables, Inc	Green Tags	100% new biomass	Nebraska	~3¢/kWh (\$25/month for avg. consumer)	Green-e
PG&E National Energy Group	PureWind Certificates	100% new wind	New York	4.0¢/kWh	—
Pepco Energy Services	PES Green TRC (non-residential only)	100% new renewables	Nationwide	NA	Green-e
PPM Energy	Green Tags from Wind Energy (non-residential only)	100% new wind	Nationwide	NA	Green-e
Renewable Choice Energy	American Wind	100% new wind	Nationwide	2.0-4.0¢/kWh	Green-e

Sterling Planet	Green America	45% new wind 50% new biomass 5% new solar	Nationwide	1.6¢/kWh	Green-e
Sun Power Electric	ReGen (available in New England)	99% new landfill gas, 1% new solar	New York, Massachusetts, Rhode Island	3.6¢/kWh	Green-e
Waverly Light & Power	Iowa Energy Tags	100% wind	Iowa	2.0¢/kWh	—
WindCurrent	Chesapeake Windcurrent	100% new wind	West Virginia	2.5¢/kWh - 3.0¢/kWh	Green-e
Viking Wind	Green Energy Tags (non-residential only)	100% new wind	Minnesota	NA	Green-e
Vision Quest	Green Energy (non-residential only)	100% new wind	Alberta, Canada	NA	Green-e

*Large users may be able to negotiate price premiums.

** The Climate Neutral Network certifies the methodology used to calculate the CO2 emissions offset.

NA = Not applicable.

Source: L. Bird and B. Swezey, National Renewable Energy Laboratory

<http://www.eere.energy.gov/greenpower/markets/certificates.shtml?page=1>

Table 3.9.2. Estimated Wholesale RECs Supplying Voluntary Markets, 2003

Segment	Retail Sales Millions of MWh	Estimated RECs Sales Millions of MWh
Utility Green Pricing	1.3	0.4
Competitive Markets	1.9	1.9
Unbundled RECs	0.7	0.7
Total Green Power Market	3.9	3.0

Source: L. Bird, NREL, 2004

Table 3.9.3. Voluntary Market REC Retirements in Texas and NEPOOL

Year	Texas Voluntary REC Retirements (MWh)	NEPOOL Voluntary REC Retirements (MWh)*
2001	N/a	0
2002	241,000	112,973
2003	797,000	56,905

Sources: ERCOT 2004; NEPOOL GIS

Table 3.9.4. Voluntary Market Wholesale REC Prices for New Sources by Type and Region (\$/MWh)

Region	Wind	Solar	Biomass	Small Hydro
CA	1.75-2.00		1.50	
WECC	1.25-7.50	30.00-150.00	1.50-3.50	
Central	2.00-5.50		1.50	
PJM	15.00-17.00	80.00-200.00	4:00-5.00	
New York	15.00-16.00		6.00	
NEPOOL	35.00		45.00	5.00
SPP	2.50-5.00			
Southeast			3.50	
Sources: Evolution Markets (data for July 2003 through October 2004) and GT Energy.				

Table 3.9.5. Voluntary Market Wholesale REC Prices for Existing Sources by Type and Region (\$/MWh)

Region	Biomass	Geothermal	Hydro	Small Hydro	LIHI Hydro
WECC	0.25-2.50	1.00-3.50			
Central					
PJM					
New York	2.00-5.00		2.00-3.00	1.00-3.50	
NEPOOL				2.00-4.00	6.00
Southeast					
Source: Evolution Markets. Data for July 2003 through October 2004.					

3.10 – State Incentive Programs

Many states have policies or programs in place to support renewable energy resources, such as tax incentives; industry recruitment incentives; or grant, loan, or rebate programs. The following table lists the incentives currently available by state.

Table 3.10.1. Financial Incentives for Renewable Energy Resources by State

State	Tax Incentives	Grants, Loans, Rebates and Other Incentives
AL	Wood-Burning Heating System Deduction (Personal)	Renewable Fuels Development Program (Biomass, Municipal Solid Waste)
AK		Power Project Loan Fund
AZ	Qualifying Wood Stove Deduction; Solar and Wind Energy Systems Credit (Personal); Solar and Wind Equipment Sales Tax Exemption (Personal)	APS – EPS Credit Purchase Program; TEP – SunShare PV Buydown
AR		
CA	Solar or Wind Energy System Credit – Personal; Tax Deduction for Interest on Loans for Energy Efficiency; Solar or Wind Energy System Credit – Corporate; California Property Tax Exemption for Solar Systems	Emerging Renewable (Rebate) Program; SELFGEN – SELF-Generation Program; Solar Schools Program; San Diego - Residential Solar Electric Incentive for Homes Destroyed in Wildfires; Anaheim Public Utilities – PV Buydown Program; Burbank Water & Power – Residential & Commercial Solar Support; City of Palo Alto Utilities – PV Partners; Glendale Water & Power – Solar Solutions Program; LADWP – Solar Incentive Program; Redding Electric – Vantage Renewable Energy Rebate Program; Roseville Electric – PV Buy Down Program; SMUD – Solar Water Heater Program Rebate; SMUD – PV Pioneer II Loan; SMUD – Solar Water Heater Program Loan Geothermal and PV leasing; Solar water heating; Energy technology export program; Agricultural Biomass to Energy Program; Supplemental Energy Payments (SEPs)
CO		Aspen Solar Pioneer Program - Solar Hot Water Rebate; Gunnison County Electric - Renewable Energy Resource Loan; Aspen Solar Pioneer Program - Zero-Interest Loan Colorado - Aspen - Grid-Tied Micro Hydro Production Incentive; Colorado - Aspen Solar Pioneer Program - PV Production Incentive;
CT	Local Option for Property Tax	Residential PV Rebate Program; Mainstay Energy Rewards Program - Green Tag Purchase Program; Connecticut - Commercial, Industrial, Institutional PV Grant Program; Connecticut - Fuel Cell Initiative; Connecticut - New Energy Technology Program; Energy Conservation Loan
DE		Green Energy Program Rebates;
DC		
FL	Solar Energy Equipment Exemption	Florida - Gainesville Regional Utilities - Solar Rebate Program; Florida - JEA - Solar Incentive Program
GA		

State	Tax Incentives	Grants, Loans, Rebates and Other Incentives
HI	Residential Solar and Wind Energy Credit; Corporate Solar and Wind Energy Credit	HECO, MECO, HELCO - Energy Solutions Solar Water Heater Rebate; Kauai Electric - Residential Solar Water Heating Program; Kaua'i Island Utility Cooperative - Commercial Solar Water Heating Program; Oahu - Energy Solutions Honolulu Solar Roofs Initiative Loan Program; Kauai County - Solar Water Heating Loan Program; Maui County - Maui Solar Roofs Initiative Loan Program for Solar Water Heating
ID	Solar, Wind, and Geothermal Deduction (Personal)	BEF - Renewable Energy Grant; Low-Interest Loans for Renewable Energy Resource Program
IL	Special Assessment for Renewable Energy Systems	Renewable Energy Resources Program Rebates; Chicago Photovoltaic Incentive Program (PIP); Renewable Energy Resources Program (RERP) Grants; Illinois Clean Energy Community Foundation Grants
IN	Renewable Energy Systems Exemption	Alternative Power & Energy Grant Program; Distributed Generation Grant Program (DGGP); Energy Education and Demonstration Grant Program; Energy Efficiency and Renewable Energy (EERE) Set-Aside
IA	Wind Energy Equipment Exemption; Local Option Special Assessment of Wind Energy Devices; Methane Gas Conversion Property Tax Exemption; Property Tax Exemption for Renewable Energy Systems	Grants for Energy Efficiency and Renewable Energy Research; Alternate Energy Revolving Loan Program; Iowa Building Energy Management Program (Iowa Energy Bank)
KS	Renewable Energy Property Tax Exemption	State Energy Program Grants
KY		
LA	Solar Energy System Exemption	
ME		Mainstay Energy Rewards Program - Green Tag Purchase Program; Renewable Resources Matching Fund Program
MD	Clean Energy Incentive Act (Personal Credit); Personal Income Tax Credit for Green Buildings; Clean Energy Incentive Act (Corporate Credit); Corporate Income Tax Credit for Green Buildings; Sales Tax Exemption - Fuel Cells; Wood Heating Fuel Exemption; Local Option - Corporate Property Tax Credit; Special Property Assessment	Solar Energy Grant Program; Community Energy Loan Program; State Agency Loan Program

State	Tax Incentives	Grants, Loans, Rebates and Other Incentives
MA	Alternative Energy and Energy Conservation Patent Exemption (Personal); Renewable Energy State Income Tax Credit; Alternative Energy and Energy Conservation Patent Exemption (Corporate); Solar and Wind Energy System Deduction; Solar and Wind Power Systems Excise Tax Exemption; Renewable Energy Equipment Sales Tax Exemption; Local Property Tax Exemption	Clustered PV Installation Program; Open PV Installation Program; Mainstay Energy Rewards Program - Green Tag Purchase Program; Commercial, Industrial, & Institutional Initiative Grants
MI		Community Energy Project Grants; Energy Efficiency Grants; Large-Scale PV Demonstration Project Grants; Michigan Biomass Energy Program Grants; NextEnergy Curriculum Development Grants
MN	Solar-Electric (PV) Sales Tax Exemption; Wind Sales Tax Exemption; Wind and Solar-Electric (PV) Systems Exemption	Solar-Electric (PV) Rebate Program; Solar-Electric (PV) Rebate Program; Renewable Development Fund Grants; Agricultural Improvement Loan Program for Wind Energy; Value-Added Stock Loan Participation Program Renewable Energy Production Incentives;
MS		Energy Investment Program
MO	Wood Energy Production Credit	Missouri Schools Going Solar; Energy Loan Program
MT	Residential Alternative Energy System Tax Credit; Residential Geothermal Systems Credit; Alternative Energy Investment Corporate Tax Credit; Corporate Property Tax Reduction for New/Expanded Generating Facilities; Generation Facility Corporate Tax Exemption; Renewable Energy Systems Exemption	NorthWestern Energy - PV Rebate Program; NorthWestern Energy - PV Systems for Fire Stations; NorthWestern Energy - Sun4Communities; NorthWestern Energy - USB Renewable Energy Fund; BEF - Renewable Energy Grant; Alternative Energy Revolving Loan Program
NE		Dollar and Energy Savings Loans
NV	Renewable Energy/Solar Sales Tax Exemption; Renewable Energy Producers Property Tax Exemption; Renewable Energy Systems Exemption	Solar Energy Systems Demonstration Program; Boulder City Public Works - Energy Efficient Appliance Program; Nevada Power - PV Rebate Program; Sierra Pacific Power - PV Rebate Program
NH	Local Option Property Tax Exemption for Renewable Energy	Mainstay Energy Rewards Program - Green Tag Purchase Program
NJ	Solar and Wind Energy Systems Exemption	New Jersey Clean Energy Rebate Program; Renewable Energy Advanced Power Program; Renewable Energy Economic Development Program (REED); Reduced Energy Demand Options for Local Governments and Schools (REDO)

State	Tax Incentives	Grants, Loans, Rebates and Other Incentives
NM	Renewable Energy Production Tax Credit	Clean Energy Grants Program
NY	Solar and Fuel Cell Electric Generating Equipment Tax Credit; Green Building Tax Credit Program; Solar and Wind Energy Systems Exemption	Energy \$mart New Construction Program; PV Incentive Program; Wind Incentive Program; LIPA - Solar Pioneer Program; Renewables R&D Grant Program; Energy \$mart Loan Fund
NC	Renewable Energy Tax Credit – Personal; Renewable Energy Tax Credit – Corporate; Active Solar Heating and Cooling Systems Exemption	Energy Improvement Loan Program
ND	Geothermal, Solar and Wind Personal Credit; Geothermal, Solar, and Wind Corporate Credit; Large Wind Sales Tax Exemption; Geothermal, Solar, and Wind Property Exemption; Large Wind Property Tax Reduction	
OH	Conversion Facilities Corporate Tax Exemption; Conversion Facilities Sales Tax Exemption; Conversion Facilities Property Tax Exemp.	Renewable Energy Loans
OK	Zero-Emission Facilities Production Tax Credit	
OR	Residential Energy Tax Credit; Business Energy Tax Credit; Renewable Energy Systems Exemption	Solar Electric Buy-down Program; Solar Water Heating Buy-down Program; Ashland - Solar Electric Program; Ashland Electric Utility - The Bright Way to Heat Water Rebate; EPUD - Solar Water Heater Program Rebate; EWEB - Energy Management Services Rebate; EWEB - The Bright Way To Heat Water Rebate; OTEC - Photovoltaic Rebate Program; New Renewable Energy Resources Grants; BEF - Renewable Energy Grant; Small Scale Energy Loan Program (SELP); Ashland Electric Utility - The Bright Way to Heat Water Loan; EPUD - Solar Water Heater Program Loan; EWEB - Energy Management Services Loan; EWEB - The Bright Way To Heat Water Loan
PA		Sustainable Development Fund Solar PV Grant Program (PECO Territory); Pennsylvania Energy Harvest Grant Program; Metropolitan Edison Company SEF Grants (FirstEnergy Territory); Penelec SEF of the Community Foundation for the Alleghenies Grant Program (FirstEnergy Territory); SEF of Central Eastern Pennsylvania Grant Program (PP&L Territory); Sustainable Development Fund Grant Program (PECO Territory); West Penn Power SEF Grant Program; Metropolitan Edison Company SEF Loans (FirstEnergy Territory); Penelec SEF of the Community Foundation for the Alleghenies Loan Program (FirstEnergy Territory); SEF of Central Eastern Pennsylvania Loan Program (PP&L Territory); Sustainable Development Fund Commercial Financing Program (PECO Territory); West Penn Power SEF Commercial Loan Program

State	Tax Incentives	Grants, Loans, Rebates and Other Incentives
RI	Renewable Energy Personal Tax Credit; Renewable Energy Sales Tax Refund; Renewable Energy Property Tax Exemption	PV & Wind Rebate Program; Small Customer Incentive Program for Green Power Marketers; Mainstay Energy Rewards Program - Green Tag Purchase Program; PV Grant for Commercial, Industrial and Institutional Buildings; RFP for Purchase/Sale of Renewable Electricity to Large Customers Renewable Generation Supply Incentive
SC		
SD	Renewable Energy Systems Exemption; Wind Energy Property Tax Exemption	
TN	Wind Energy Systems Exemption	Small Business Energy Loan Program
TX	Solar Energy Device Franchise Tax Deduction; Solar and Wind-Powered Energy Systems Exemption	Austin Energy - Home Energy Air Conditioning and Appliance Rebates; Austin Energy - Solar Rebate Program
UT	Renewable Energy Systems Tax Credit – Personal; Renewable Energy Systems Tax Credit – Corporate; Renewable Energy Sales Tax Exemption	
VT	Sales Tax Exemption	Solar & Wind Incentive Program; Mainstay Energy Rewards Program - Green Tag Purchase Program
VA	Local Option Property Tax Exemption for Solar	Virginia Small Wind Incentives Program (VSWIP);
WA	Sales and Use Tax Exemption	Clallam County PUD - Solar Rebate Program; Grays Harbor PUD - Solar Water Heating Rebate; Orcas Power & Light - Photovoltaic Rebate; Pacific County PUD - Solar Water Heater Rebate; Puget Sound Energy - Solar PV System Rebate; BEF - Renewable Energy Grant; Franklin PUD - Solar Water Heating Loan; Grays Harbor PUD - Solar Water Heating Loan
WV	Tax Exemption for Wind Energy Generation; Special Assessment for Wind Energy Systems	
WI	Solar and Wind Energy Equipment Exemption	Focus on Energy - Cash-Back Reward; Wisconsin Municipal Utility Solar Energy Cash Allowance; Focus on Energy - Grant Programs; Focus on Energy - Loan Program
WY	Renewable Energy Sales Tax Exemption	Photovoltaic Grant Program
Source: North Carolina Solar Center, Database of State Incentives for Renewable Energy, http://www.dsireusa.org/summarytables/financial.cfm?&CurrentPageID=7 , July, 2004		

3.11 – Federal Agency Purchases of Green Power

In March 2004, federal agency purchases of green power reached 527 million kWh, an increase of 70% from July 2003, according to the Federal Energy Management Program (FEMP). Including renewable energy generated from on-site systems, the federal government uses 1,067 million kWh of renewable energy annually, which puts it more than three-quarters of the way toward meeting the 2.5% federal renewable energy usage goal for 2005. The federal goal was established by DOE pursuant to Executive Order 13123, which directed federal agencies to increase their use of renewable energy.