

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.					