



Renewable Energy Certificates: An Overview & Key Issues

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US EPA Green Power Partnership



The Next 10-15 Minutes:

- **What is a REC?**
- **Why would my company buy RECs?**
- **How much do RECs cost?**
- **What quality assurances exist in the market?**
- **How can EPA provide assistance?**

Buying Green Power Product Options

1. Bundled Electricity Products

- Buy electricity from utility green pricing programs or green power retail marketers that is all or partially generated from renewable sources



2. Renewable Energy Certificates (REC)

- Buy only the “attributes” associated with the electricity generated (1 REC = 1MWh)



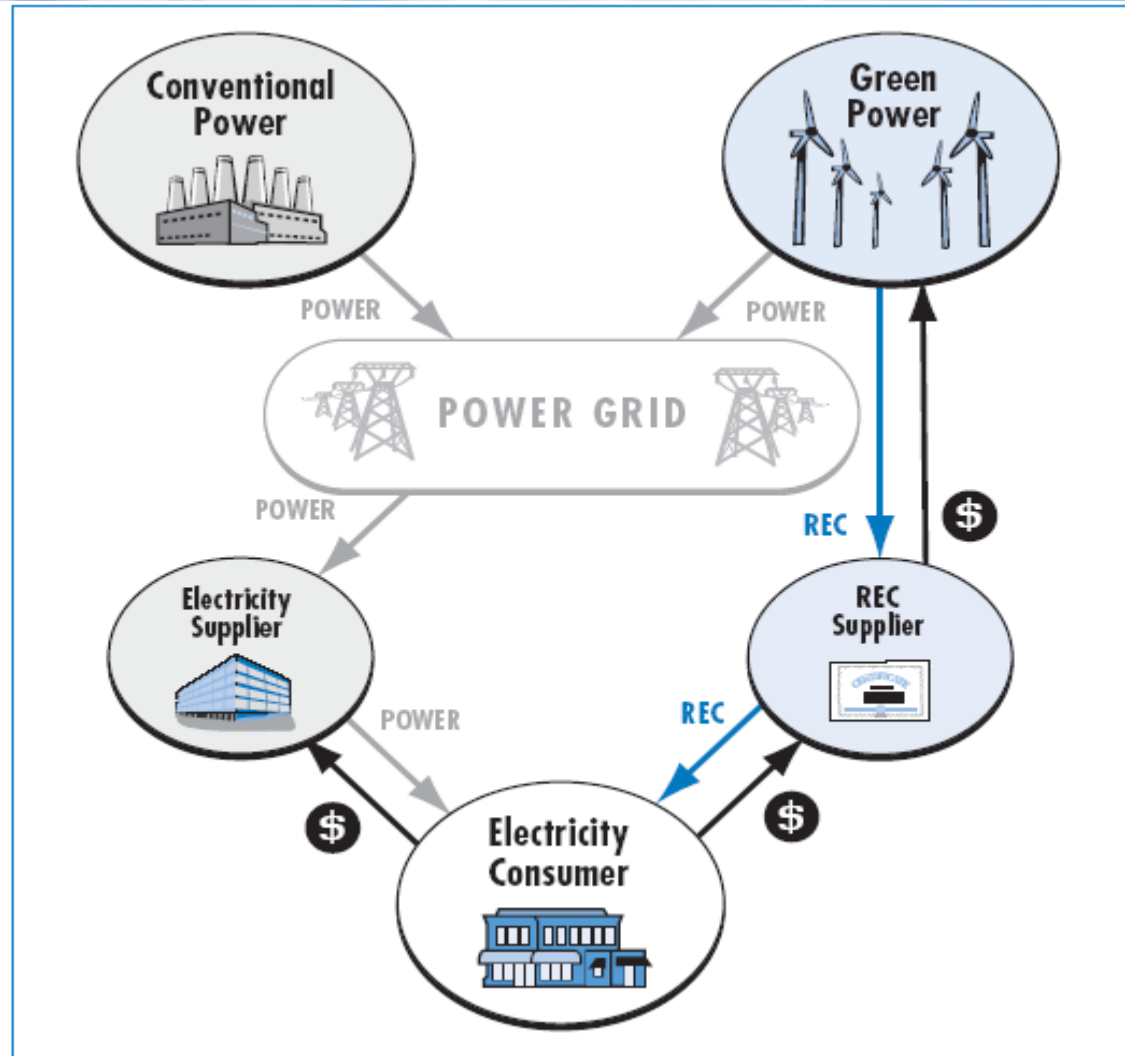
3. On Site Generation

- Install renewable energy system on site, e.g. Solar panels



What is a REC?

- A REC comprises the environmental attributes from 1 MWh of green electricity generation
- RECs are unique and vintaged and may not be double-counted
- RECs are functionally the same as utility-delivered green power

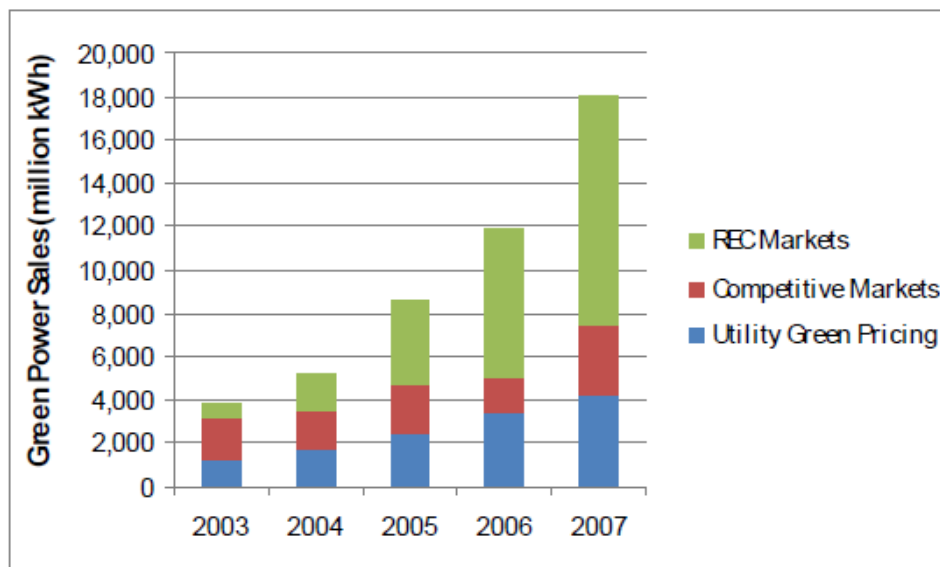


RECs' Place in the Market

Green Power Partnership (GPP) data:

Total Green Power Partners	Total Green Power (MWh)	Bundled Products (MWh)	RECs (MWh)	On-site (MWh)
+1100	17,408,946	3,280,956	13,358,337	769,653
% of GPP Total		19%	77%	4%

Overall market data:
(Source: NREL, 2008)



Buying Green Power REC Features & Benefits

■ Availability

- Even if local power provider has no green power options

■ Flexibility

- Type of renewable resources
- Volumes purchased
- Location of resource
- Leased space
- Simplicity for companies with locations across multiple states

■ Blend Resources

- Wind/ Landfill Gas/ Solar/ Geothermal
- Local/Regional/National

■ Avoidance of physical supply issues

- Does not impact contract with current provider

■ Quality assurance

- Certification (Green-e, ERT) not required, but strongly recommended
- Provides buyers with third-party backstopping and verified environmental performance



Green Power Value Proposition

- **Addresses Scope 2 emissions**
- **Delivers high-impact & low-cost value**
 - Marketing/branding value exceeds costs
- **Deploys quickly & scales up easily**
- **Translates well to customers, management, employees & stakeholders**
 - Typically doesn't require extensive technical explanation
- **Captures favorable media attention**
 - Clean technology
 - Domestic energy supply
 - New U.S. jobs

REC Wholesale Pricing Data for New Renewables by Region (\$/MWh)

Location	Wind	Solar	Biomass	Small Hydro
California	\$1.75-\$2.00		\$1.50	
Western States (WECC)	\$1.25-\$7.50	\$30.00- \$150.00	\$1.50-\$3.50	
Central U.S.	\$2.00-\$5.50		\$1.50	
PA, NJ, MD (PJM)	\$15.00-\$17.00	\$80.00- \$200.00	\$4.00-\$5.00	
New York	\$15.00-\$16.00		\$6.00	
New England (NEPOOL)	\$35.00		\$45.00	\$5.00
Southwest (SPP)	\$2.50-\$5.00			
Southeast			\$3.50	

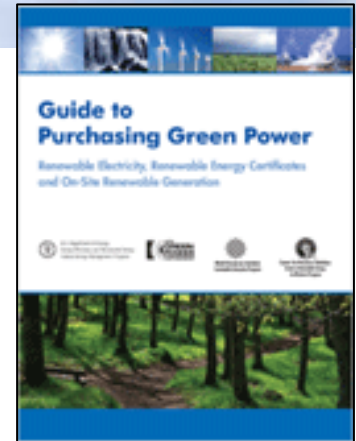
Source: From the National Renewable Energy Laboratory (NREL) 2005 report - <http://www.eere.energy.gov/greenpower/resources/pdfs/37388.pdf>

Note: The Texas (ERCOT) market is not represented in this chart.



Partnership Offerings & Benefits

- Credible Benchmarks
 - Metric for “How much green power is enough?”
 - Definition of eligible renewables
- Planning & Implementation Resources
 - Green power locator www.epa.gov/greenpowerpubs/glocator.htm
 - Purchasing guidance
 - Marketing and communications support
 - Environmental impact information www.epa.gov/greenpower/pubs/calculator.htm
- Recognition
 - Top 50 list
 - Green Power Leadership Awards
 - Promotional opportunities
 - Use of the Partner logo →



GPP Purchasing Requirements

Annual Electricity Use (MWh) *	Minimum Purchase Requirements**	Leadership Club Requirements
> 100,000	2%	20%
100,000 to 10,001	3%	30%
10,000 to 1,001	6%	60%
< 1,000	10%	N/A

Note: A Partner must meet the purchase requirements for all of its U.S. facilities to be in the Leadership Club.

*Customers with annual load less than 1,001 MWh are not eligible for the Green Power Leadership Club. EPA will recognize Partners separately who fall in this size category and purchase 100% green power.

**The Leadership Club purchase requirement must be met with “new” renewables.



Want to Know More?

■ Basic Information

- An overview of Green Power Partnership is available on EPA's Web site www.epa.gov/greenpower
- To see full details of program requirements, please see: www.epa.gov/greenpower/documents/gpp_partnership_reqs.pdf
- To see EPA's Top 50 national green power purchasers, please visit: www.epa.gov/greenpower/toplists/top50.htm
- To see EPA's Green Power Purchasing Guide, please visit: www.epa.gov/greenpower/documents/purchasing_guide_for_web.pdf

■ More Questions?

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