



Making the Grade with Green Power

A Primer on Purchasing Green Power For Colleges & Universities

U.S. EPA's Green Power Partnership

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Green Power Partnership Webinar

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Frequently Asked Questions

- What is green power?
- Why should my institution buy green power?
- What are my green power options?
- How much will green power cost?
- How do I buy green power?
- How can EPA provide assistance?



What is Green Power?

- Green power is an “environmentally-differentiated” electricity product from:
 - solar
 - wind
 - geothermal
 - biomass
 - biogas
 - small hydro



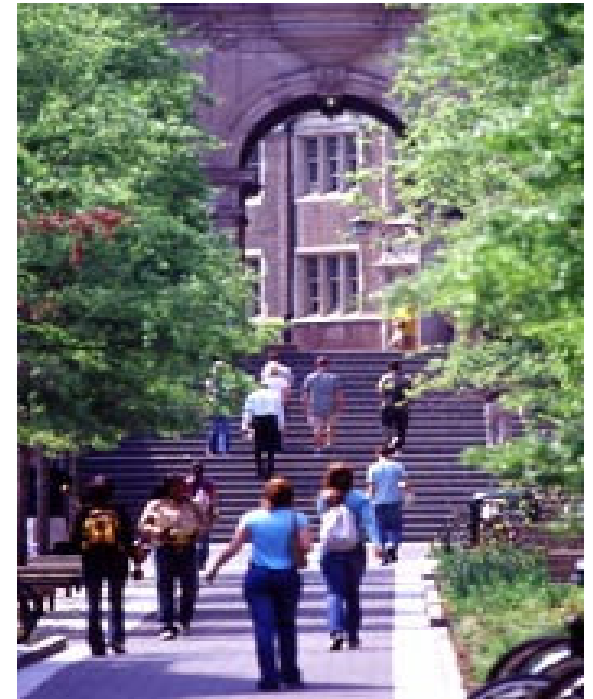
Green Power Benefits

- Environmental
 - Reduce greenhouse gases (GHGs)
 - Reduce criteria pollutants*
 - Water conservation
- Energy Price Stability/Reliability
 - Reduced demand for natural gas lowers prices
 - Electricity price stability
 - On-site systems can reduce T&D requirements
- Economic Development
 - Job creation
 - Landowner lease payments (\$2000-\$5000/wind turbine)
 - Tax revenues (often in rural areas that need them)



Motivation for Higher Education Partners?

- Meet environmental objectives
 - Sustainability goals
 - GHG reduction targets
 - American College & University Presidents Climate Commitment (500 schools enrolled)
- Deploys quickly & scales up easily
- Manage risk
 - Diversify generation portfolio
 - Hedge against unstable or rising fossil fuel prices
 - Reduce the risk of disruptions in fuel supplies
- Captures favorable media attention
 - Clean technology
 - Domestic energy supply
 - New U.S. jobs



Motivation for Higher Education Partners?

- Enhance image with
 - prospective students
 - peer institutions
 - surrounding community
- Strengthen relationships
 - Positive publicity
 - Student, faculty, alumni, and staff morale
- Student activism
 - Renewable energy is a hot topic on campus
- Incorporate green power into research initiatives & curricula

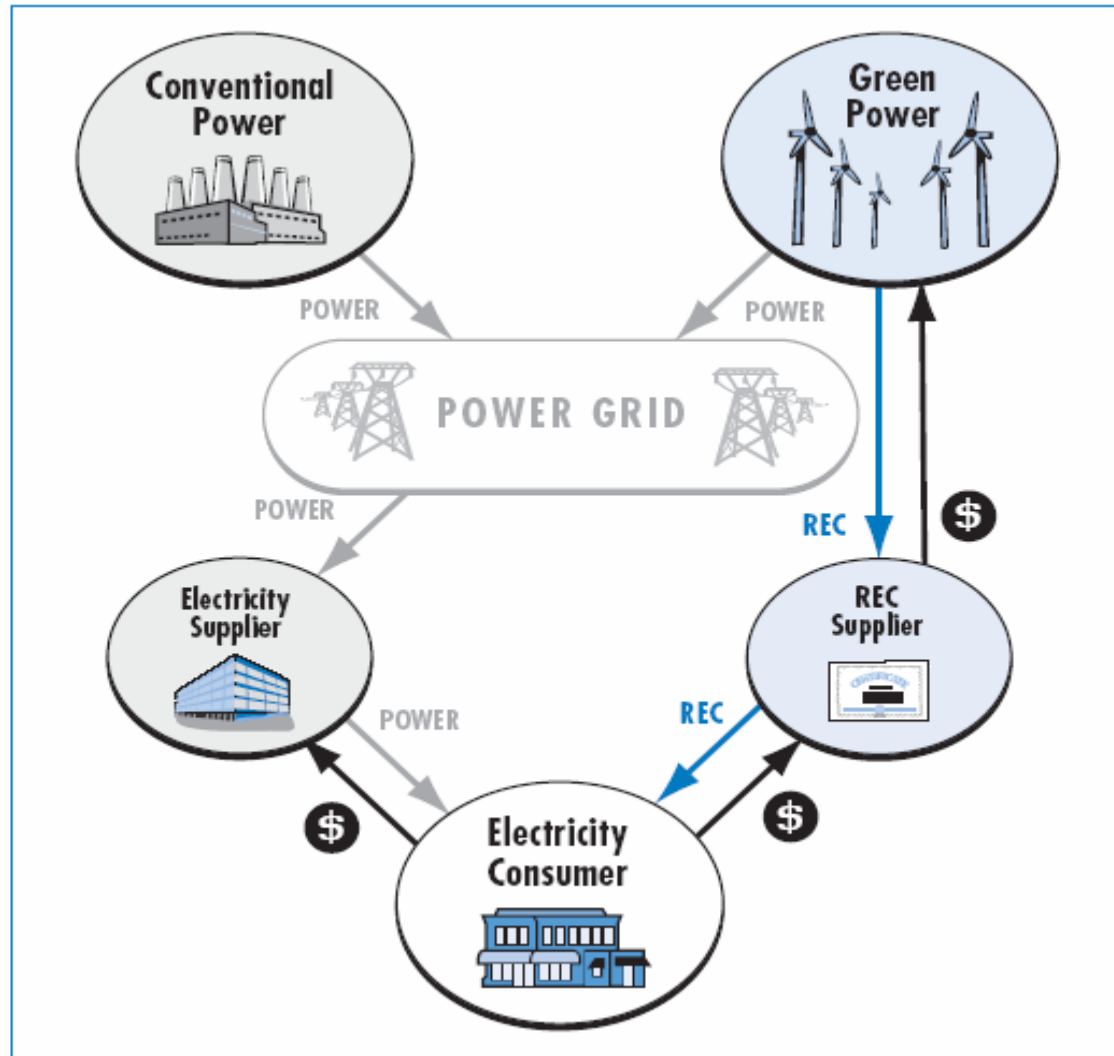


Buying Green Power – Product Options

- Green Power Electricity Products
 - Buy electricity from utility green pricing programs or green power retail marketers that is all, or partially, generated from renewable sources
- Renewable Energy Certificates (REC)
 - Buy only the environmental “attributes” associated with the electricity generated (1 REC = 1 MWh)
- On-site Generation
 - Install renewable energy system on-site (e.g. solar panels, wind turbines)



REC Transaction Process



Buying Green Power: REC 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/ National
- Avoidance of physical supply issues
 - Does not impact contract with current provider
- Attribute ownership
 - Buyers should specify ownership of attributes in contract



EPA's Green Power Partnership

- The Green Power Partnership is a voluntary EPA program that seeks to increase the use of green power among leading U.S. organizations.
- Partners in the program purchase green power in an amount that must meet or exceed the EPA benchmarks and in return receive EPA technical assistance and recognition.
- The Partnership currently has nearly 1,000 Partners, including Fortune 500 companies, states, federal agencies, local governments, and colleges and universities.



Green Power Partnership's Goals

- Reducing GHGs by Transforming Markets
 - Building demand through voluntary renewable electricity sales
 - Focusing on non-residential demand
- Providing Carrots, Not Sticks
 - Offering credible benchmarks & market information
 - Promoting Partners' environmental leadership
- Keeping It Simple
 - Sign agreement and complete purchase within 1 year
 - Provide annual update



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/gplocator.htm
 - Purchasing guidance
 - Marketing and communications support
 - Environmental impact information www.epa.gov/greenpower/pubs/calculator.htm
- Recognition
 - Top 25 and Top 10 lists
 - Green Power Leadership Awards
 - Promotional opportunities
 - Use of the Partnership logo



How Much Green Power to Join?

	Partnership Benchmark	Leadership Benchmark
If your annual electricity use is...	You should, at minimum, use this much green power	You should, at minimum, use this much green power
Over 100,000 MWh	2%	20%
100,000 - 10,000 MWh	3%	30%
10,000 - 1,000 MWh	6%	60%
Under 1,000 MWh	10%	N/A

Note: 100% of minimum green power purchase benchmark should be met with "new" renewable energy.



Which Colleges & Universities Buy?

- **The Top 10 Higher Ed Partners (by purchase size)**
 1. **University of Pennsylvania** **192,727 MWh**
 2. **New York University** **132,000 MWh**
 3. **Pennsylvania State University** **86,300 MWh**
 4. **Oregon State University** **66,680 MWh**
 5. **California State University System** **66,189 MWh**
 6. **University of California, Santa Cruz** **57,000 MWh**
 7. **Texas A&M University System** **43,350 MWh**
 8. **Northwestern University** **40,000 MWh**
 9. **Western Washington University** **40,000 MWh**
 10. **University of Utah** **36,666 MWh**
- **EPA partners with 85 schools in total**



College & University Challenge

Throughout the 2008-09 academic year, EPA's Green Power Partnership will track and recognize the collegiate athletic conferences with the highest combined green power purchases in the nation. The Green Power Challenge is open to all U.S. colleges, universities, and conferences.

1. Ivy League (221,583,000 kWh)		
School	Green Power (kWh)	% Green Power
Pennsylvania	192,727,000	46
Harvard	17,681,000	8
Yale University	11,175,000	6
Brown	-	-
Columbia	-	-
Cornell	-	-
Dartmouth	-	-
Princeton	-	-

2. University Athletic Association (153,000,000 kWh)		
School	Green Power (kWh)	% Green Power
New York University	132,000,000	100
Carnegie Mellon	21,000,000	21
Brandeis	-	-
Case Western Reserve	-	-
Emory	-	-
University of Chicago	-	-
University of Rochester	-	-
Washington University	-	-

3. Big Ten Conference (133,600,000 kWh)		
School	Green Power (kWh)	% Green Power
Penn State	83,600,000	20
Northwestern	40,000,000	20
Iowa	10,000,000	3
Michigan	-	-
Illinois	-	-
Indiana	-	-
Michigan State	-	-
Minnesota	-	-
Ohio State	-	-
Purdue	-	-
Wisconsin	-	-



- 18 Athletic Conferences
- 42 Schools



Environmental Benefits of Higher Ed Partners' Purchases

85 College and University Partners with green power purchases totaling more than 1.2 billion kWh

- Purchases avoid ~ 1 million tons of CO₂ emissions, which is equivalent to:
 - The greenhouse gas emissions from 176,000 passenger vehicle cars
 - The CO₂ emissions from 2.2 million barrels of oil consumed
 - The CO₂ emissions from the electricity use of 127,000 average American homes for one year



Sampling of Green Powered Schools

University of Central Oklahoma



- Signed a long-term contract for wind power
 - Wind product currently 1.0¢/kWh less than base rates
 - Expects to save \$260,000 in energy costs per year

Evergreen State College



- Student-initiated referendum for 100% green power
 - 91% voting in favor of green power fee
 - \$1 per credit hour

University of Pennsylvania



- Administration-led effort to be leader in environmental sustainability
 - Largest university purchaser
 - Annually increased purchase from 20 million kWh in 2003 to 192 million kWh today

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 EPA's Top 10 College and University Partners, please visit: <http://www.epa.gov/greenpower/toplists/top10ed.htm>
- To see EPA's College & University Green Power Challenge, please visit: http://www.epa.gov/greenpower/initiatives/cu_challenge.htm

- More Questions?

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