



EPA's Green Power Partnership Requirements

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Summary

- Whole organizations or parts of an organization can participate (U.S. facilities only).
- Partners commit to purchase an amount of renewable energy that is proportional to their annual electricity consumption.
- Eligible renewable resources include wind, solar, geothermal, qualifying biomass and low-impact hydropower.
- Purchase requirements may be met with green power products, renewable energy certificates (RECs), power from on-site generation, or any combination of the three.
- Minimum purchase requirements must be met with power from "new" renewable facilities.
- Partnership requirements will be reevaluated periodically.

Introduction

This document explains the updated requirements for joining EPA's Green Power Partnership; a voluntary program helping to support the increased use of green power among leading U.S. organizations, in order to reduce the environmental impacts associated with conventional electricity use. These updated requirements will be effective January 1, 2007.

This document provides technical details that supplement the basic Partnership requirements outlined in the Partnership Agreement

Eligible Sources of Green Power

A key program requirement is the purchase of green power from eligible renewable resources. For this purpose, EPA recognizes eligible renewable resources standards that have been developed and embraced by the green power marketplace. The consensus standard has been developed by the Center for Resource Solutions with the support of regional stakeholder groups.

The following are eligible renewable resources:

- Solar Electric – including photovoltaic and thermal electric technologies
- Wind
- Geothermal
- Hydropower – certified by the Low-Impact Hydro Institute or certain other hydropower resources (see Appendix A). Green power contracts from hydropower facilities of less than 30 MW capacity will be honored until those contracts expire if the contract was in place prior to April 30, 2006.
- Eligible Biomass – solid, liquid and gaseous forms from woody waste, agricultural crops or waste, animal and other organic waste, energy crops, landfill gas and wastewater methane, and municipal solid waste that meets certain conditions (see Appendix A). Wood that has been coated with paints, plastics or Formica, or treated with certain preservatives, are not eligible.
- Biodiesel (B100) – used to generate electricity, and biodiesel blended with petroleum diesel if certain conditions are met (see Appendix A).
- Fuel Cells – using the above eligible fuels
- Co-firing of eligible forms of biomass with non-renewables is accepted if certain conditions are met (see Appendix A). Only the amount of electricity generated from eligible biomass may count towards the Partner's purchase.

For satisfying Partnership requirements, renewable energy facilities must be located in the United States.

Green Power Products

EPA allows Partners flexibility in deciding what kinds of green power products they use to meet purchase requirements. Green power marketing and green pricing products delivered through the grid, renewable energy certificates (RECs), and on-site power generation from renewable resources – or any combination of these – are acceptable. The renewable energy content of green power marketing and green pricing products may vary. EPA will only count the renewable energy portion of a product toward the purchase requirement.

Minimum Purchase Requirements

The Partnership requires that a Partner’s purchase of green power meet a particular percentage of its annual electricity use. The determination of a Partner’s annual electricity use is dependent on the level of participation the organization chooses.

Under current market conditions, green power can cost more than conventional, fossil fuel-based power. Partnership purchase requirements attempt to balance the incremental cost of green power at a level of commitment that will promote market transformation – making green power purchasing increasingly commonplace.

The Partnership’s minimum purchase requirements are outlined below.

Table 1: Minimum Purchase Requirements

Annual Electricity Use (MWh)	Minimum Purchase Requirements*
> 100,000	2%
100,000 to 10,001	3%
10,000 to 1,001	6%
≤ 1,000	10%

*For each purchase requirements, the minimum purchase quantity must be greater than the highest purchase quantity of the next lower purchase requirement.

The following steps establish a Partner’s minimum purchase requirement:

- Identify the level of the participation by determining whether the entire organization or only a part of it will become a Partner. For more information, see “Level of Participation” below.
- Identify the participating facilities’ annual electricity use.
- For organizations with leased space, determine the square footage of the leased space and multiple that number by an annual electricity per square foot (kWh/sf)

factor. EPA uses an average of .0135 MWh/sf/yr (or 13.5 kWh/sf/yr) across all building types.

Based on the facilities' annual electricity use, the partner's purchase requirement will fall in one of the four levels identified in Table 1.

“New” Renewables Requirement

In order to support the development of new renewable facilities, EPA requires that Partner purchase requirements (see Table 1 and Table 2) be met with green power from “new” renewable energy facilities. “New” is defined as green power from an eligible renewable energy facility placed in operation (generating electricity) on or after January 1, 1997 (see exceptions and conditions below).¹

For Partner purchases that exceed the minimum or Leadership Club requirements, the additional green power beyond the purchase requirement may be from eligible renewable resources in operation prior to 1997 or “existing” renewables.

In addition to being placed into operation on or after January 1, 1997, the following criteria also qualify a renewable generating facility as a “new” facility:

1. The facility has been re-powered on or after January 1, 1997 such that 80% of the fair market value of the project derives from new generation equipment installed as part of the re-powering.
2. A separable improvement to or enhancement of an existing operating facility provides incremental generation that is contractually available for sale and separately metered from the existing generation at the facility.
3. The facility is a biomass co-firing operation that meets the eligibility requirements as described in Appendix A, and began co-firing eligible biomass with non-eligible fuels on or after January 1, 1997.
4. The facility is a separately metered landfill gas resource that was not being used to generate electricity prior to January 1, 1997.

Level of Participation

Organizations have the flexibility to choose whether the entire organization or only a part of it will become a Partner. This is designed to give organizations the flexibility to refine green power procurement strategies as they purchase green power incrementally. Many participating organizations utilize this flexibility.

There are five levels at which an organization may become a Partner:

¹ An exception may be made, on a case-by-case basis, for facilities placed online prior to 1997 that were developed specifically for utility green pricing programs.

- Corporate level or national account
- Utility service territory level
- State level
- Facility level, or
- A logical aggregation of facilities (i.e., all facilities in a state or region or all facilities in a division of an organization)

It must be noted that if the organization does not participate at a national level, EPA only recognizes the participating entities as the Green Power Partner.

Purchase Requirements and Energy Efficiency

Energy efficiency upgrades do not affect a Partner's size for program participation. Upon joining the Partnership, the Partner establishes its electricity consumption baseline. This baseline is used to determine the Partner's purchase requirement. At the Partner's request, this purchase requirement can remain fixed for the duration of the Partner's participation. Where Partners undertake efficiency improvements that significantly reduce their electricity use, the Partnership will not “penalize” them by requiring a higher percentage of green power. EPA encourages implementation of energy efficiency improvements and can refer Partners to ENERGY STAR® for more information.

Incremental Green Power Requirement

EPA requires that green power purchases be over and above renewable energy obligations or mandates placed on utilities or load-serving entities, and incremental to what the Partner would have purchased absent proactive green power procurement.

The following are examples of circumstances to be avoided by Partners. In each of these examples, the green power purchase would not be incremental and therefore would not result in an environmental benefit:

1. The green power is used to satisfy a renewable portfolio mandates or goals imposed by federal, state or local governments on utilities or load-serving entities.
2. The green power is included in an undifferentiated power product, e.g., standard electricity service or utility system mix.
3. The green power is being paid for by all customers, e.g., in a utility's standard rates.

4. The green power comes from a renewable generating facility that has been mandated by a local, state or federal government agency, e.g., in a consent decree.
5. The green power is purchased in lieu of paying a system benefits charge for renewable energy, e.g., a self-directed system benefits charge.
6. The green power is purchased as part of a Supplemental Environmental Project (SEP) pursuant to a Clean Air Act enforcement action.

The following are circumstances in which EPA has recognized the green power purchase as incremental:

1. The green power purchase is a result of an obligation placed on federal, state or local government agencies as end-users of energy such as a state or federal executive order.
2. The green power is included as a voluntary measure in a State Implementation Plan (SIP) pursuant to the federal NO_x Budget Cap and Trade Program. Although SIPs are mandated, they do not set mandatory requirements for use or purchase of renewable energy. Therefore, a purchase of green power under a SIP is considered a voluntary purchase.

Environmental Benefits

Purchasing or using green power -- including renewable energy certificates (RECs) -- enables Partners to make certain environmental benefit statements. For a purchase to qualify for the Partnership, Partners must ensure the green power or RECs they purchase convey the right to make all associated environmental benefit statements. Also, Partners must retire, or not resell, the RECs associated with their green power purchase or on-site generation. A green power provider may retire the RECs on the Partner's behalf. These requirements will help avoid two different parties claiming the same green power benefits.

To standardize the calculation of environmental benefits, such estimates should be calculated using eGRID.² EPA requires that providers and Partners use the annual average emission rate of the eGRID subregion in which the generator is located. Appropriate emission factors (lbs/MWh) may be found at <http://www.epa.gov/cleanenergy/powerprofiler.htm>.³

² eGRID is the Emissions & Generation Resource Integrated Database maintained by the US Environmental Protection Agency that records average annual emission rates (lbs./MWh) by power plant. The database can be exercised to show average emission rates by utility, state, region and nationally. It can be found at <http://www.epa.gov/cleanenergy/egrid/index.htm>.

³ This would apply to claims of carbon reduction benefits that are not regulated by a cap and trade program. Note that claims about SO₂ emissions reduction may not be made by renewable energy generators unless they have acquired and subsequently retire SO₂ emission allowances under the Acid

Partners purchasing green power from landfill gas or wastewater treatment methane may claim the indirect greenhouse gas emissions reductions from displacing conventional electricity. Greenhouse gas emission reductions from the direct capture and destruction of methane need not be conveyed to the Partner with the purchase of electricity or RECs.

Certified Green Power Products

EPA strongly encourages purchasing green power products that are certified by an independent third party as a matter of best practice. Purchasing a certified green power product offers a higher level of certainty to customers that they are getting what they pay for. Certified products meet environmental and customer protection guidelines adopted by the certifying organization as well as guidelines set forth by the National Association of Attorneys General and the Federal Trade Commission.

EPA currently does not require Partners to purchase certified products.

Partner Reporting

Partners have one year from the date of their Partnership Agreement to make a green power purchase consistent with EPA's Green Power Partnership requirements. Partners need to submit a Partner Yearly Report to document how they have met EPA's requirements. Partners that fail to meet the Partnership requirements within 15 months of the date of their Partnership Agreement are placed in probationary status, followed by suspension – which entails removing mention of the Partner from all Partnership materials and messages. Please refer to the Green Power Partnership Web site to view an example of the Partner Yearly Report.

Green Power Leadership Club and Leadership Awards

Any organization that meets the Partnership's minimum requirements is eligible to become a Green Power Partner. Beyond the minimum requirements for a Partner, there are two additional tiers of EPA recognition: the Green Power Leadership Club and the Green Power Leadership Awards.

Green Power Leadership Club

The Green Power Leadership Club (Leadership Club) honors Partners that substantially exceed the minimum purchase requirements for joining the Partnership. Nomination forms do not need to be submitted to qualify for the Leadership Club, and there is no

Rain Program. Similarly, providers and Partners must be very careful about making claims for NOx emission reductions, which are capped in 17 states and vary by time of year.

limit as to how many purchasers may qualify. Partners meeting this requirement receive a plaque and are recognized annually on the Partnership’s Web site.

The following steps establish a Partner’s Leadership Club purchase requirement:

- Identify annual electricity use for the participating organization’s U.S. facilities.
- For organizations with leased space, determine the square footage of the leased space and multiple that number by an annual electricity per square foot (kWh/sf) factor. EPA uses an average of .0135 MWh/sf/yr (or 13.5 kWh/sf/yr) across all building types.

Based on the annual electricity use, the partner’s purchase requirement will fall in one of the three levels identified in Table 2.

Table 2: Green Power Leadership Club Purchase 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%

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.

Green Power Leadership Awards

The annual Green Power Leadership Awards are designed to recognize organizations and individuals that significantly advance the development of renewable resources and green power markets. Awards are presented to Partners nominated and selected by an independent panel of judges. Awards are given for the following categories:

- On-site generation
- Green power or renewable energy certificate purchasing
- Partner of the Year

Green Power Leadership Award winners must be EPA Green Power Partners. The awards are presented annually at the National Renewable Energy Marketing Conference. For more details, visit the Awards page of the Green Power Partnership Web site at <http://www.epa.gov/greenpower/gpleadership.htm>.

Process for Revising Requirements

EPA will continue to monitor the green power market and propose revisions to Partnership requirements as necessary. Requirements subject to review include, but are not limited to, minimum purchase requirements, Leadership Club purchase requirements, new renewables requirements, and eligibility of renewable resources. Any significant changes will only be made after EPA Green Power Partners and stakeholders are provided an opportunity to review and comment on the proposed changes.

Appendix A: Standard of Eligible Renewable Resources

Currently, the most widely used green power resource standard in the marketplace is that of the Center for Resource Solutions' Green-e program. Due to its widespread use and support from regional stakeholder groups, EPA recognizes the Green-e list of eligible renewable resources.

Following a proposal that was issued for public review and comment in 2005, the Green-e program adopted a national standard, replacing its various regional standards, which apply to renewable energy certificates, utility green pricing programs and competitive market electricity products. The following lists of eligible resources are taken from an excerpt of this document.⁴

II. ELIGIBLE SOURCES OF SUPPLY

A. Definition of Eligible Renewables

The following types of renewable energy are eligible to supply Green-e certified products:

1. Solar Electric;
2. Wind;
3. Geothermal;
4. Hydropower from new generation capacity on a non-impoundment or new generation capacity on an existing impoundment that meets one or more of the following conditions:
 - a. Hydropower facilities certified by the Low Impact Hydropower Institute;
 - b. Run-of-the-river hydropower facilities equal to or less than 5 MW nameplate capacity;
 - c. Hydropower facilities that consist of a turbine in a pipeline or a turbine in an irrigation canal; and/or
 - d. The Board will consider on a case-by-case basis new incremental capacity on an existing dam, where the "new" output is equal to or less than 5 megawatts.

Green-e will not certify renewables from new impoundments of water. Green-e will consider adopting ocean-based resources and will review these technologies as they mature and as practical application reaches near term.

⁴ This is an excerpt from the Green-e Renewable Electricity Certification Program, National Standard Version 1.0 (January 6, 2006). To view the complete standard, visit http://www.green-e.org/pdf/Green-e_National_Standard.v1.pdf.

5. Solid, liquid, and gaseous forms of Biomass from the following fuels:
- a. All woody waste⁵
 - b. All agricultural crops or waste
 - c. All animal and other organic waste
 - d. All energy crops
 - e. Landfill gas and wastewater methane
 - f. Municipal Solid Waste is eligible if it is first converted to a clean burning fuel that is then used to generate electricity. The solid waste conversion facility for converting the municipal solid waste to a clean burning fuel must meet the following criteria:⁶
 - i. The facility uses a non-combustion thermal process to convert the municipal solid waste to a clean burning fuel.
 - ii. The technology is designed to produce no discharges of air contaminants or emissions, including greenhouse gases.
 - iii. The technology produces no discharges to surface or groundwaters.
 - iv. The technology produces no hazardous wastes.
 - v. To the maximum extent feasible, the technology removes all recyclable materials and marketable green waste compostable materials from the solid waste stream prior to the conversion process and the owner or operator of the facility certifies that those materials will be recycled or composted.
 - vi. To the maximum extent, the facility will remove plastics and all other recyclables
 - vii. The facility at which the technology is used complies with all applicable laws, regulations, and ordinances.

Third-party verification that an MSW facility has met these criteria is required in order for the electricity or RECs from a facility to be used in a Green-e certified product. The California Energy Commission can provide this verification in California and TerraChoice may be able to provide this service in other regions. Facilities may also petition Green-e to allow an alternative third-party to perform this verification if that party meets appropriate standards.

⁵ Includes “black liquor” from pulp and paper processing, mill residues, industrial waste wood, and waste wood from woodworking or wood processing, so long as the wood is not chemically treated or coated.

⁶ Criteria adapted from the California’s “Renewables Portfolio Standard Eligibility Guidebook, August 2004. This guidebook can be downloaded at:
http://www.energy.ca.gov/portfolio/documents/guidebooks/2004-08-20_500-04-002F1.PDF.

Biomass resources excluded from eligibility include:

- a) Wood that has been coated with paints, plastics, or formica
- b) Wood that has been treated for preservation with materials containing halogens, chlorine or halide compounds like CCA-treated materials, or arsenic. (CCA = chromated copper arsenate)

Qualified wood fuels may contain de minimis quantities (less than 1% of total wood fuel) of the above excluded contaminants.

6. Biodiesel (B100) that is used to generate electricity is eligible for Green-e. Biodiesel blended with petroleum diesel is permitted if the following conditions are met:

- a) The biodiesel is separately measured (and verified) from the petroleum diesel, and
- b) Contracts are in place to allow CRS to verify that the biodiesel was converted to electricity.

Only the amount of electricity generated from the biodiesel may be counted as part of a Greene certified product.

7. Fuel Cells are eligible only if powered by hydrogen derived from any of the above eligible renewable resources.

B. Co-firing of Biomass with Non-Renewables

Co-firing of eligible forms of biomass with non-renewables is permitted if at least one of the following conditions is met:

1. The facility is located in an electric system control area that makes use of a generation tracking system (e.g., NEGIS, PJM-GATS, WREGIS) that is fully capable of accurately measuring and reporting the differentiated (biomass-fired and non-biomass-fired) electrical output from the facility; or,
2. The biomass is in a gaseous or liquid state, is separately metered and there are contracts in place to verify that the biomass portion was converted to electricity; or,
3. Facilities that do not meet either of the criteria above may be eligible subject to a case-by-case review by the Green-e Governance Board. The methodology presented to Green-e must demonstrate that the Btu value of the electrical output from the facility is attributed to the eligible biomass fuel. Some of the criteria that the Board will consider in making their decision are:

- a) Whether the facility was modified to accept biomass fuel;

- b) Whether there is an independent entity involved in verifying or determining the appropriate measurement;
- c) Whether there is a way to determine and ensure the net electricity increment being sold as "renewable" can be attributed to eligible biomass fuel. The Board would prefer a verification methodology that is brought forth by the PMAC and UGPAC that could be applied universally.

Only the amount of electricity generated from the eligible biomass may count towards the Green-e criteria.