



Green Electricity: A Buyer's Guide

The process of generating electricity for our daily activities can create a range of negative impacts, including the release of greenhouse gases, air pollutants, and mercury, with their attendant effects on human health and the environment, as well as habitat destruction and depletion of valuable nonrenewable resources. We, as a society, are starting to demand electricity with less environmental impact and green electricity can help respond to this demand.

WHAT IS GREEN ELECTRICITY?

"Green electricity" is electricity that has been generated from renewable resources with minimal adverse environmental effects. Thus, it reduces the human health and environmental risks while continuing to provide all of the associated benefits. Although the exact definition of green electricity may vary by jurisdiction, it is generally defined as being generated from renewable resources such as wind, solar and photovoltaic energy, low-impact hydro resources, low-emission geothermal, low-emission sustainably produced biomass, or biogas. Once electricity is generated at a facility, regardless of the way in which it is produced, it enters the grid and is carried to you, the user. What makes the electricity "green" is the way in which it was generated and the air emissions that it displaces from fossil-fuel sources on the grid, not the electricity itself.

WHY BUY GREEN ELECTRICITY?

Green electricity has environmental benefits over electricity generated by conventional methods. Thus, facilities that generate electricity from low-impact renewable resources create more than just electricity. They create less pollution. For every megawatt-hour (MWh) of electricity from a green power facility connected to the regional electric system, there is one less MWh from conventional sources. If the displaced

electricity would have been generated by coal, oil, or natural gas, then the green power plant avoids emissions of carbon dioxide, particulate matter, and other pollutants that the fossil-fired power plant would have emitted.

Some governmental jurisdictions now require that a specific percentage of the electricity purchased by their agencies must come from green sources. For example, in the United States, the Energy Policy Act of 2005 requires federal agencies to purchase three percent of their electricity from renewable sources beginning in fiscal year 2007, increasing to 7.5 percent in 2013.

HOW DO I KNOW IT IS GREEN?

Once electricity enters the regional electric system for distribution, it is not possible to distinguish its source from any other. Some, but not all, electricity providers offer green electricity directly to their customers. However, everyone can buy green electricity thanks to Renewable Energy Certificates (also known as green tags). To ensure that you are receiving the green electricity or certificates you have paid for, purchase products that are certified and verified by an independent third party. Both Canada and the United States have organizations that provide this service (see the further discussion below).



WHAT ARE RENEWABLE ENERGY CERTIFICATES (RECS)?


Renewable Energy Certificates, or RECs (pronounced “recks”), represent the technology and environmental attributes of one MWh of electricity generated from renewable sources. These attributes may be sold separately from the associated electricity and passed on or sold as a separate product. If the attributes are separated from the associated electricity, the electricity is no longer considered “green.” RECs allow us to get the benefits of green electricity even when actual green electricity is not directly available to us or is not being produced in our area. They offer us a means of having less impact on our environment and supporting sustainable energy generation.

RECs offer electricity consumers a way of ensuring that the environmental benefits of green electricity are preserved and used only once. That means that no one else can claim these benefits or use them.


Although there are many definitions of green electricity and RECs, several organizations working in this area have incorporated similar elements. They have already conducted research into what could and should be defined as “green.” Additionally, programs like EcoLogo^M and Green-e, administered by independent third-party organizations, have credibility, have verified whether or not the electricity/REC meets their definition, and have formally certified certain products.

Independent certification programs:

EcoLogo^M
TerraChoice Environmental Marketing
800-478-0399
<ecologo@terrachoice.com>
EcoLogo^M Program
<www.ecologo.org>



Green-e
Center for Resource Solutions
888-634-7336
<webmaster@green-e.org>
Green-e Certification Program
<www.green-e.org>



HOW CAN YOUR ORGANIZATION PURCHASE GREEN ELECTRICITY?

There are six simple steps a buyer should follow to purchase green electricity.

1. Identify Key Departments and Decision-makers

It is important to get the participation and buy-in of key players in your organization. This includes the participation of not only senior management who will be signing off on the initiative, but also any departments or individuals that can bring specialized knowledge and the results of already performed research that contribute to buying green electricity.

2. Gather Annual Electricity Use Data

Figure out how much electricity your organization is actually using. Do an inventory of the previous year’s electricity usage and budget. This should be available on your organization’s monthly utility bills, or can be obtained directly from your service provider.

3. Determine Organizational Values

→ **Price:** Rates for green electricity may be given as either the cost per kilowatt-hour for green electricity itself or the extra cost above that for regular electricity alone. RECs are usually sold in blocks representing the attributes of a certain number of MWhs of electricity.

→ **Resources:** Different green electricity/ REC products may contain electricity generated by one or more different resources—biogas (such as landfill gas), low-emission sustainably produced biomass, low-emission geothermal, low-impact hydro, solar and photovoltaic, low-impact tidal and wave, and wind. Although all hydroelectricity is renewable, large-scale facilities can sometimes displace communities, destroy or degrade critical habitat such as streams and rivers and harm wildlife and native fish populations. “Low-impact hydro” is a mechanism for evaluating hydroelectric facilities based on their environmental impacts rather than their size. Such a designation helps identify facilities that are operated in an environmentally sensitive manner.

→ **New versus Existing:** By demanding that your electricity come from new generating facilities, you can support and encourage the development of additional green electricity capacity, and you are more likely to be buying a product which is displacing fossil-fuel electricity that would otherwise have been produced on the grid. However, even supporting existing capacity will encourage the development of new capacity by demonstrating that there is a market for green energy.

→ **Product content:** Not all green electricity offerings contain 100 percent renewable resources. Products may contain anywhere from one percent “green” or more, with the remainder usually being the standard mix of resources available on the grid (e.g., fossil fuels, nuclear).

4. Determine Available Options

You should start by asking your local service providers what options, if any, they offer. Offerings by local providers will vary, so be sure to ask about the source and mix of green electricity. Examining the certified green electricity and REC product listings on the EcoLogo^M and Green-e web sites will help you with your assessment. These sites will tell you exactly who the providers are and where they are located. Be sure to examine both electricity and REC options. “Green Electricity” is actually two things bundled together—the electricity itself and the environmentally preferable way in which it was generated. Purchasing RECs is a way of getting the attributes of green electricity even if green electricity itself is not available in your area. You can purchase RECs from marketers, directly from generators, or even from brokers. See the EcoLogo^M and Green-e web sites for a list of companies providing green electricity and RECs.

5. Make an Informed Decision

It is important to develop a full procurement strategy for purchasing green electricity or RECs. This information will help you meet the needs of key players, overcome organizational resistance, convince decision-makers of the value of the purchase, and contribute to broader environmental goals and policies.

- **Selection criteria:** Be sure to identify resources, product content, and the age of the generating facility, based on your organization's core values (as listed in Step 3 above). Certification programs such as EcoLogoM and Green-e require that such information be available to customers in the form of a "product label" or upon inquiry. Among other things, these labels specifically identify the resource mix, when the generation started (new versus old), and the percentage of green versus conventional electricity.
- **Volume of purchase:** Although your final goal may be to meet all of your organization's electricity demand with green electricity, you may want to begin with smaller steps. These might include, for example, starting off by purchasing enough green electricity to meet 25 or 50 percent of your organization's

annual needs, or purchasing enough green electricity to cover the electricity usage of one department, one building, or a conference being run by your organization. Some service providers are open to these types of negotiations.

- **Contract terms:** Some suppliers of green electricity are willing to negotiate the length of your contract and the variability of the price you will be paying. Just as with mortgages, you may have options for fixed versus variable rates. Some suppliers will also estimate the environmental benefit of your purchase.
- **Competitive choices:** At its most basic, this is a procurement process just like any other. You may want to ask for proposals from various sources or use a formal "request for proposal" (RFP) process. If possible, negotiate with various providers.

6. Tell Your Stakeholders

Finally, be proud of your decision to buy green electricity. Promote your green electricity purchases internally. Gain a marketing edge or public relations benefit by describing your purchase on your products, web site, in press releases, and at speaking engagements. In Canada, register your ownership of emissions reductions (where applicable—e.g., GHG reductions could be registered with the CSA International GHG Registry at <www.ghgregistries.ca>; or NO_x and SO₂ reductions with the Ontario Ministry of the Environment's Ontario Emissions Trading Registry at <www.ene.gov.on.ca/envision/air/etr/index.htm>). In the United States, green electricity and RECs affect indirect emissions accounting associated with purchased electricity in corporate greenhouse gas inventories (for instance, US EPA's Climate Leaders program <www.epa.gov/climateleaders>).



WHERE IS ADDITIONAL INFORMATION AVAILABLE?

For additional information about purchasing green electricity, visit the following resources:

- The US EPA publishes a Guide to Purchasing Green Power <www.epa.gov/greenpower/pdf/purchasing_guide_for_web.pdf>.
- The US EPA Green Power Partnership assists organizations interested in purchasing green electricity in the United States <www.epa.gov/greenpower/>.
- The US Department of Energy, Federal Energy Management Program web page about renewable energy <www.eere.energy.gov/femp/technologies/renewable_energy.cfm>.
- The US Department of Energy, Federal Energy Management Program web page about purchasing renewable energy <www.eere.energy.gov/femp/technologies/renewable_purchasepower.cfm>.
- Natural Resources Canada web page giving various links to existing programs in Canada <www2.nrcan.gc.ca/es/erb/erb/english/View.asp?x=68>.
- Environment Canada web page describing green power and the Environmental Choice Program as a certifying body and information source <www.ec.gc.ca/cleanair-airpur/Green_Power-WS2AF56668-1_En.htm>.



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What is the North American Green Purchasing Initiative?

The Commission for Environmental Cooperation (CEC) launched the North American Green Purchasing Initiative (NAGPI) to harmonize green product standards and practices throughout North America. NAGPI is working closely with public, private, and non-profit organizations to harmonize green standards and specifications throughout North America. NAGPI is structured as a "network of networks," which allows it to quickly gather information, facilitate agreement, and distribute the resulting consensus with large segments of the green purchasing community. For additional information on NAGPI, visit <www.cec.org/nagpi>.

The CEC is an international organization created by Canada, Mexico, and the United States under the North American Agreement on Environmental Cooperation (NAAEC). The CEC was established to address regional environmental concerns, help prevent potential trade and environmental conflicts, and to promote the effective enforcement of environmental law. The Agreement complements the environmental provisions of the North American Free Trade Agreement (NAFTA). For additional information, visit <www.cec.org>.