

The Maine Green Power Connection's

Green Power Student Action Guide 2003



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Executive Summary

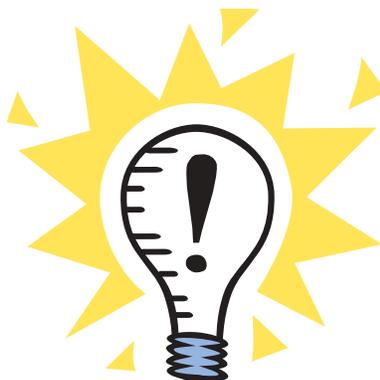
So, you're a student, staff member, or administrator at a college or university in Maine and you want to bring Green Power to your campus. Great! Here's an outline of the steps that a number of pioneering institutions of higher learning across the country have taken to do just that:

1. Identify your partners, those people and parties, both on and off campus, that share your interest in green power.
2. Form an organized group to launch your renewable energy campaign on campus.
3. Determine whether an energy audit has been done on your campus in the recent past (last 5-7 years.)
4. Find out the basics of the electricity supply on your campus. (Who pays the bills? What types of accounts do you have? Where is your supply coming from now?)
5. Research the green power options available in Maine. Visit www.MaineGreenPower.org for details and links to other energy-related sites.
6. Interview relevant faculty, staff, and administrators to gather the information you will need to set your school's energy priorities and determine what type of green power would be best suited to your school.
7. Determine cost of purchasing green power for your school and strategize ways to cover the cost.
8. Create a Green Power Plan for your campus incorporating all of your research.
9. Launch and maintain an education campaign to inform the entire student and faculty body about green power and its importance to institutions of higher learning, yours in particular.
10. Bring attention to your campaign with attractive posters, articles in campus print and on-line publications, guest speakers and workshops on energy-related issues, etc.
11. Document student support for a green power purchase by the school in the form of a petition or student referendum or other means.
12. Use the widespread approval you garner to show support for the administration to take action and commit to buying green power.
13. Celebrate your school's green power purchase! Ensure that the news of the greening of your campus is spread through the media both on and off campus.
14. After your school's green power purchase, continue working with your partners to follow to reduce energy consumption and increase energy efficiency on campus!

Introduction

-Who should use this guide?

The Green Power Student Action Guide is meant to help anyone who is interested in bringing green power to their campus: students, faculty, facilities managers, or administrators. The guide will first provide some basic information about green power and why it is important. Following this green power “primer,” you will find recommendations for how to bring green power to your campus that build upon the experiences of pioneering “green power” colleges and universities across the U. S. In order to get a better sense of each school’s path to a purchase, there is also a section with detailed information about each how each school made its decision to switch.



-What is “green power”?

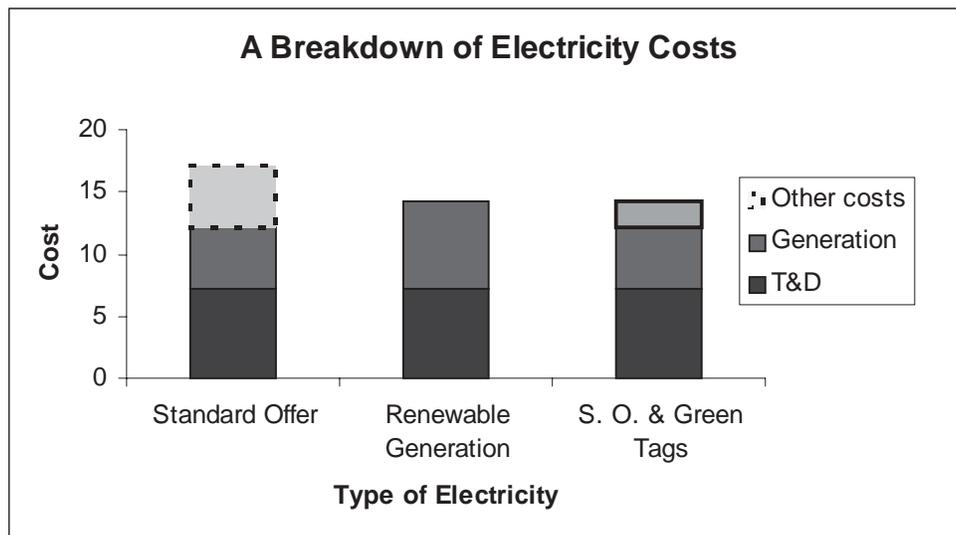
Simply put, green power is electricity generated from renewable resources that produce low or no emissions. Solar, wind, geothermal, biomass, and low-impact hydro are all considered types of “green power”.¹ There is a significant difference between green power and power generated by the combustion of fossil fuels (e.g., coal, oil, and natural gas) or by nuclear power plants.

Power generated from renewable resources offers a number of environmental and health benefits while also contributing to our nation’s energy independence. So-called “brown power sources” produce significant pollution and have a significant negative impact on the environment and human health. Through the use of green energy technologies that have minimal environmental impacts, the United States will be better able to reduce the high levels of air pollution that result from fossil fuel combustion for electricity generation.

-Why is it important to support green power?

It is essential that we reduce our current dependence on fossil fuels such as coal, oil and natural gas that emit carbon dioxide, sulfur dioxide, nitrous oxides, and particulate matter into the atmosphere. Carbon dioxide is a greenhouse gas that is contributing to climate change. Climate Change, also known as global warming, is vastly altering the atmosphere and damaging the earth. Sulfur dioxide, nitrous oxides, and particulate matter are air pollutants released when fossil fuels are burned. These pollutants cause acid rain and decrease the quality of the air we breathe. Deterioration of air quality contributes to severe health problems. Every year, close to 361,000 Americans die of lung disease. Lung disease is America's number three killer, responsible for one in seven deaths².

Buying green power is one step that we can take to confront these monumental problems. Switching to green power will substantially reduce air emissions and help mitigate the effects of climate change and its negative implications for human health. In addition, by supporting green power we can help our country reduce its dependence on foreign oil and become energy independent. Buying local green power also helps the local economy by encouraging the construction of new facilities and the creation of jobs.



As the above graph indicates, a number of factors contribute to the true cost of electricity. This cost includes the items that typically appear on everyone’s electricity bill: charges for transmission and distribution (T&D) and charges for the actual power generation. The fee that the utility charges its customers for T & D and generation is what is known in Maine as “the Standard Offer.” The graph also shows what is NOT included in your monthly bill, i.e., the social and environmental costs of electricity generated by fossil fuel-burning and nuclear power plants.

Also known as *externalities*, these social and environmental costs are not captured in the price of electricity, but we are all pay these costs in other ways. Externalities include increases in health care costs that result from increased incidence of diseases such as asthma that are caused and exacerbated by air pollution. Externalities also include lost productivity in the U. S. workforce due to increased pulmonary and coronary illness caused, in part—you guessed it—by dirty air. Melting of polar ice caps, destructive changes in weather patterns, devastation due to increased flooding and drought, dramatic loss of wildlife habitat—the environmental costs of changes in the atmosphere due to increased concentrations of greenhouse gases from the burning of fossil fuels are never factored into your electricity bill.

The Standard Offer is only “cheaper” than green power if these important but too often unaccounted for costs are not included in the calculation. Clearly, despite its slightly higher generation cost, because green power does not incur these external costs, it is the wisest long-term investment on behalf of human health, the US economy, and the global environment. (For more information on global climate change and its ramifications for human health, the US economy, and the global environment, visit <http://www.pewclimate.org/global-warming-basics>)

-What are the green electricity options in Maine?

Individuals and businesses in Maine can purchase green electricity without even leaving the power grid through two options. They can purchase **renewable energy certificates**³ or they can **switch their actual supplier**⁴ to a green generator.

Renewable energy certificates allow the customer to purchase the environmental benefits associated with renewable energy by paying the “environmental premium,” or the difference between standard electricity prices and the higher green electricity prices. This allows green generating facilities such as wind farms to produce and sell green power into the grid. There are a number of different certificates available, so customers can choose which facilities they would like to support.

The second option, **switching your supply**, results in your utility having to purchase more power from green sources—in Maine’s case, biomass and hydro generators—than they do through the Standard Offer. The utility (either Central Maine Power or Bangor Hydro) continues to provide transmission and distribution services (the “T & D” referenced earlier), but the green power customer pays a slightly higher price per kilowatt hour to ensure that green generators get their power into the grid ahead of “brownier” sources.

While there is no way to ensure that the electricity that powers the lights on your campus or the computer in your dorm is “green,” your school’s purchase of green power does ensure that power generated from renewable, low or no-emission sources gets into the grid, “greening” the mix of energy available to all customers.⁵

Both renewable energy certificates and switching electricity suppliers allow consumers to reward renewable energy generators and make the power grid greener. On-site renewable energy generation options such as solar panels, energy conservation measures, and energy efficient equipment and buildings can also help Maine’s colleges and universities lighten their environmental “footprint.”

-How do colleges and universities purchase power for their campuses?

The majority of colleges and universities in Maine are members of Maine Power Options, an aggregator that assists non-profit organizations to make lower cost energy purchases by pooling their resources and buying as a group. Currently many of these colleges and universities buy electricity for around \$0.045 per kWh. Many schools, however, see the price they pay for electricity vary according to the month of the year and, in some cases, the time of day. Some larger campuses with complex accounts and large power needs encounter both of these pricing systems.

The decision to buy power involves a number of players on every campus. At some schools, there may be a person in facilities management who is in charge of electricity monitoring and purchasing. At other schools, it may be an accountant that simply pays the bills. Whatever the case is at your school, the decision to switch to green power will require many different people from the administration, facilities, and other departments to work together.

What can you accomplish with the Green Power Student Action Guide?

1. Get the board of trustees at your college or university to implement the Kyoto Protocol on your campus. (Tufts University in Medford, MA, has done this. See the Tufts Climate Initiative website, www.tufts.edu/tie/tcl/WhoWeAre.html, for more information on how and why they did it!)
2. Get your campus to purchase all or a portion of the school's electricity from renewable energy sources.
3. Get the administration to institute comprehensive energy conservation measures to lower energy consumption on campus. Savings generated through energy conservation may be used to purchase renewable electricity at a later date.
4. Get the administration to work on energy efficiency in dorms, labs, or other buildings on campus.
5. Educate the college community and raise awareness about the benefits of green power and the green power options available in Maine.

Why colleges and universities should buy green power⁶

1. To illustrate a commitment to and responsibility for environmental protection.
2. To show the administration's commitment to their institution's founding educational mission to educate and nurture responsible citizens.
3. To protect human health and mitigate the school's negative effects on people's well-being.
4. To encourage others—individuals and institutions alike—to support renewable energy.
5. To comply with the Kyoto Protocol and reduce the school's environmental footprint by helping to reduce greenhouse gas emissions.
6. To provide environmental leadership for other institutions, possibly resulting in local, state or federal recognition for the school and its trustees.
7. To demonstrate the institution's commitment to "walking its talk." Being one of the first colleges or universities in Maine to buy green power would indicate to current as well as prospective students that your institution is a progressive one. Particularly as more and more schools across the nation decide to purchase green power, being one of the first to buy green power in Maine would establish your institution as leader among its peers.
8. To raise student awareness about current levels of energy consumption, the environmental impacts of wasteful consumption, and the alternatives that are available.
9. To assume fiscal responsibility by protecting the school against fluctuations in the price of fossil fuels. Unlike fossil fuels, renewable energy resources such as wind, geothermal, hydro, and solar are not subject to variations in price.
10. To demonstrate commitment to decreasing dependence on foreign supplies, supporting Maine-based generators, and increasing national security.
11. To ensure a more reliable electric supply for the school, particularly if a decision is made to generate renewable electricity on-site.

How to get there from here...

1. Identify a core group of students interested in green power and committed to changing the energy policy of your college or university. A student environmental group may already exist, but there may also be other students that are interested in this particular issue. Get as many people interested and involved as possible.
2. Form an action committee responsible for organizing and launching the renewable energy campaign. This group will also be responsible for continuing the commitment to energy issues (energy efficiency, energy conservation, etc.) after the school's initial purchase of green power.
3. Find out if your school has conducted an energy audit detailing campus energy use. An audit provides information your college or university needs to calculate its emissions and make a judgment on the economic and environmental impact of switching to renewable energy. If your college or university has not yet completed an energy audit, meet with staff in the facilities management department or finance department to discuss the benefits to the school of undertaking an audit. Volunteer your group to help with any research or logistics that need to be handled for an audit to occur.
4. Research the sources of the electricity that your school is currently buying. *Who* at your school pays the electricity bills? Is there someone in facilities management that oversees the electricity accounts for the school? Or is there an accountant who pays the bills? You must also find out how many electricity accounts your school has and what size these accounts are. By looking at a year's worth of the school's electricity bills, you will be able to determine how much power each account uses, how much you are being charged per kilowatt hour (this will vary depending on the size of the account), what sources of power are being utilized, and the amount and composition of the emissions resulting from the school's power use.
5. Become very familiar with the green electricity options in Maine. Visit <http://www.MaineGreenPower.org> and <http://www.meipl.org> to keep current on green power developments in the state and region. Maine's electricity market was deregulated in 2000. Currently, there are two options available to Maine customers: Green Tags or renewable energy certificates, and Green Supply. On-site options such as solar panels on the roof of buildings should also be considered.
6. Set priorities for your school's particular needs and interests. Determine the relative importance and achievability of the following options and factors:
 - a. Switch the school's power supply and support Maine renewable sources that may still produce some emissions or feature other debatable environmental impacts (e.g., hydropower dams on rivers with historic anadromous fish runs.)
 - b. Buy Green Tags in order to support electricity generation from zero-emission sources, typically wind farms in the Western United States.
 - c. Support a particular type of electricity generation such as solar or wind
 - d. Involve a wide and diverse constituency in the green power discussion. In order to decide what the school's priorities are and what type of green power would be the best suited to your school's particular situation, you must seriously discuss the

matter with a number of people on campus. Remember, a unified group of students, staff, faculty, and administrators will be able to get the most accomplished. Do not view this as an adversarial relationship between you at the school. Listen to everyone's concerns and interests and you will ultimately arrive at the best solution. Some of the people you should approach include:

- The college's Environmental Advisory Group or a similar body
 - The college's Environmental Studies or Sustainability Coordinator
 - The Environmental Studies Department Chair(s)
 - Student Government Association
 - Physical Plant Department
 - Administrative Vice President
 - President/ Chancellor
7. Calculate the cost of various green power purchase configurations for your school. How will the college or university pay to make the switch? Will the additional cost be covered through an existing budget? From savings from conservation measures? Or from increased student fees? What other sources of funding or grants are available? Are there any U. S. or Maine Department of Energy programs that could help? You don't want your purchase to only last for one year. Look into how you can pay for the switch over time and discuss goals for the amount of green power you will purchase in the future and how you can achieve efficiencies and reduce electricity usage over the long-term.
- a. Both Connecticut College and Wesleyan University purchased green power through the Connecticut Energy Cooperative. Students at both schools held bake sales to raise the \$1,500 CEC membership fee. At Connecticut College, students also agreed to a \$25 increase in their student activity fee to pay for the purchase of renewable electricity. At the time of purchase the rate was \$0.061/kWh. Many other colleges and universities have successfully raised student fees to pay for at least part of their green electricity purchases. The fee increases have ranged from \$1 per semester to \$25.
 - b. At the University of Vermont, financial contributions from the US Department of Energy, in addition to funds from the University's Physical Plant Department, made the school's solar energy project a reality.
8. Create a Green Power Plan for your campus that addresses the following questions: How much will the school purchase the first year, and in future years? Where will the money come from to initiate the purchase? How will the cost of green power be factored into future school budgets? Who will be responsible for ensuring that green power stays on the school's agenda? How will your campus, over time, reduce the total amount of electricity used? Does on-site generation figure into your school's energy future? How will the benefits of constructing efficient green buildings be factored into new construction plans for the campus? What effective and affordable retrofit options are possible to make older buildings more efficient?
9. Once you have a complete picture of your school's energy use, the green power options available in Maine, and the costs associated with the purchase of green electricity, launch a serious education campaign to provide the entire student body with information about green

power, its costs and benefits. Use all media, both on campus and off, to ensure maximum visibility for your campaign. A recent study sponsored by the Gallup Organization, the Institute for Global Ethics and the Nathan Cummings Foundation found that of those non-activist students interviewed, 20% said that they would be more likely to take action on environmental issues if they had more information.⁷ So inform them!

10. Publicize your campaign in all college or university publications and around campus, particularly in busy locations such as the student center. Get a feature story in the alumni magazine. Alumni might be interested in helping fund or consult with you on the project. Make sure everyone knows your goals and how you plan to achieve them. Hold meetings about green power, set up an information booth in your student center, write articles for the campus paper. For more ideas on how other campuses have run their green power campaigns, visit the Maine Green Power Connection website at: <http://www.MaineGreenPower.org>
11. Document student support for your green power initiative. Circulate a petition to the student body or, if possible, sponsor a campus referendum.⁸ You will be able to make a stronger case for switching to green power if there is evidence that the student body supports your plan. Publicize faculty and staff support for this purchase. Show decision makers that the entire college community supports the decision to buy green power.
12. Find ways to give the school's administrators and trustees credit for "doing the right thing" by buying green electricity. The US EPA's Green Power Partnership program regularly recognizes colleges and universities that make significant contributions to improving air quality through their green electricity purchases. Visit the EPA's website, <http://www.epa.gov>, to learn more about the Green Power Partnership and other ways to get your school the recognition it deserves for its green power purchase. Establish your school as a leader among its peers and make your experiences available to other campuses to help them make the switch.
13. Once your school has bought some portion of green electricity, continue to work with the administration and the board of trustees to further the institution's commitment to cleaner electricity and reduction of energy use.

(Footnotes)

¹ Additional information on each type of renewable energy source can be found at: <http://www.powerscorecard.org/technologies.cfm>

² See the website for the American Lung Association for more on the connections between lung disease and poor air quality: <http://www.lungusa.org>

³ To find out more about renewable energy certificates, visit the website for the Center for Resource Solutions: <http://www.resource-solutions.org>

⁴ To find out more about switching to green electricity in Maine, visit the website for Maine Interfaith Power & Light: <http://www.meipl.org>

⁵ To find out more about green tags visit: http://www.ems.org/renewables/gree_tags.html

⁶ From "A Guide to Buying and Benefiting from Green Power" compiled by the EPA's Green Power Partnership. The full report is available at <http://www.epa.gov/greenpower/gpresources/gpresources.htm>.

⁷ Loges, William E. and Rushworth M. Kidder. "Reaching Out." Camden, Maine: The Institute for Global Ethics, 2000.

⁸ See sample petitions at the People and Planet website www.peopleandplanet.org/climatechange/guide.petition.rft

