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Clean Power for CONNECTICUT

Building the Market for Business and Institutional Customers

Environment Northeast

A Strategic and Bioregional Approach to Environmental Problem Solving

Environment Northeast

Addressing Connecticut's Energy Future

Environment Northeast (ENE) is a not-for-profit, member supported environmental research and advocacy organization focusing on the northeast United States and eastern Canada. Our mission is to address large-scale environmental problems through policy analysis, collaborative problem solving, and advocacy.

ENE's core staff has professional backgrounds in the areas of environmental law, energy policy, ecosystem planning, forestry, and transportation, with a long track record on Connecticut energy issues. ENE represents environmental interests on Connecticut's Energy Conservation Management Board and on the Northeast Utilities RD&D Policy Working Group. ENE is active before the legislature and the Department of Public Utility Control (DPUC) on all aspects of electricity restructuring affecting green power markets, renewable energy, and energy conservation. ENE's principals also have served on the board of directors of the Northeast Energy Efficiency Partnerships and Northeast Sustainable Energy Association. ENE recently authored Protecting Our Biosphere: A Comprehensive Response to Climate Change, and is currently working to implement greenhouse gas abatement strategies in New England.

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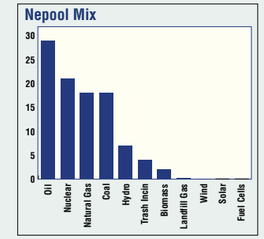
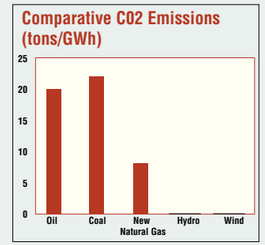
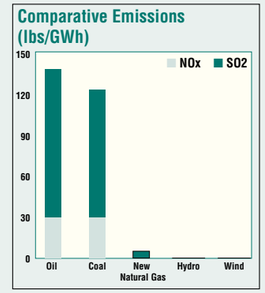
About Clean Power

What many people don't know is that electric power is generated by different kinds of sources. The vast majority of electricity in the Northeast is generated from large, central power plants that use oil, nuclear, coal, and natural gas fuels, which is sent through transmission lines onto the New England power "grid" and then through distribution lines to local customers. A small portion of this power comes from what are called "renewable energy" resources, generated using hydro, landfill gas, biomass, wind, solar, or fuel cells. Renewable energy's underlying feature is that it is capable of "sustainability" because the "fuel" source is replenishable. In most cases, renewable energy has dramatically lower emissions of pollution, waste and greenhouse gases than conventional fossil fuel and nuclear sources. For this reason, experts often refer to these renewables as "clean power" sources.







Environment Northeast is one of many nonprofit groups and government agencies trying to promote the construction and operation of cleaner renewable energy sources through sound policy and market forces. One good reason to do this is that it increases the self-sufficiency of our regional power supply, making us less reliant on imported fossil fuels. Another obvious reason is that our communities are suffering economic and health losses that result from conventional power plant pollution.

Parts of Connecticut are in severe ozone (smog and haze) non-attainment areas for much of the summer vacation months. Studies have demonstrated that vacationers spend less time and less money visiting locations where the visibility is impaired by bad haze conditions.[1] Most important, power plant pollution is attacking the health of citizens, businesses, and institutions located in Connecticut.[2]

Power Plant Pollution Impacts	Asthma ER Visits	Total Hospitalizations	Asthma Attacks	Lost Work Days	Premature Mortality
Hartford Metro	27	77	2,240	19,700	110
Connecticut	71	213	6,040	52,800	299

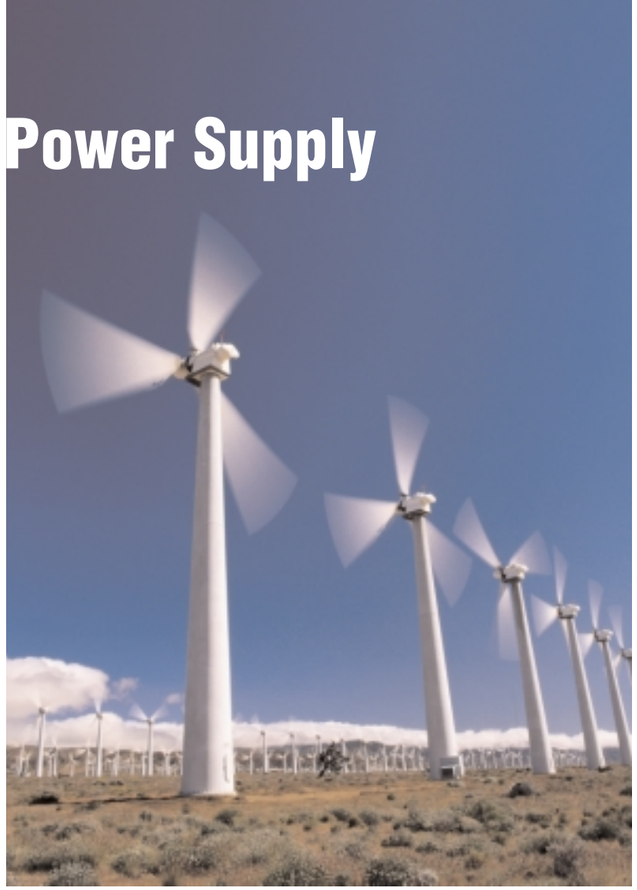
[1] Clean Air Task Force, "Out of Sight: Haze in our National Parks," 2000, p.3
[2] Clean Air Task Force, "Death, Disease and Dirty Power," 2000 p. 22 and 24, citing results of a study by Abt Associates, "The Particulate-Related Health Benefits of Reducing Power Plant Emissions," 2000.

Options for Cleaner Power Supply

There are three basic paths customers can choose to "clean up" their power supply. For some customers, the most direct is to install *"on-site" or "distributed" generation* for some or all of their supply. On-site generation usually comes in the form of fuel cells, photovoltaics (solar panels), or small wind turbines which are cleaner than the average of power that is supplied through the grid.

For many other customers, the best option is to direct their purchasing dollars to cleaner sources of power generation while continuing to rely on the electricity "grid" to supply all of their power needs. The electrons flowing to your door won't change, but the sources of generation associated with your purchase and your consumption will.

To redirect your purchasing dollars and influence the kind of generation that gets developed and operated, you can either buy "delivered power" or a variety of "blocks," "credits," or "tags."



Delivered Power

Select a licensed retail supplier who will promise to deliver into the New England grid (serving Connecticut) a certain amount of electricity from specified types of generators (e.g., wind, hydro, etc.). Some of these supply products are "off the shelf" and others you can custom design by means of an RFP or negotiations with a supplier. Customers of delivered power can claim that the environmental profile of their clean energy is better than that of the supply that they would otherwise have received (e.g., the grid's average mix).

Blocks, credits, or tags

Select one supplier for delivery of your electricity supply to the New England grid, and separately purchase the "characteristics" of power generated by specified clean sources. The purchase of "characteristics," as accounted for by holding a certain quantity of "blocks," "credits," or "tags," enables the customer to claim that its dollars are supporting power generation from specific (e.g., clean or renewable like wind or solar) resources and promoting the development of, and the market for, those desirable resources.

Selected Case Studies from the Northeast

Episcopal Diocese, Hartford, CT

Product: Green Mountain Energy: 6% wind, 94% low impact hydro
Supplier: Green Mountain Energy Co.
Details: Supplies meters at Diocese's main buildings.

Connecticut College, New London, CT

Product: EcoWatt™: 6% wind, 29% landfill gas, 65% hydro
Supplier: Connecticut Energy Co-op
Details: $25 increase in student activity fee, proposed by students and approved by trustees, buys about 17% of total supply from EcoWatt.

Wesleyan College, Middletown, CT

Product: EcoWatt™: 6% wind, 29% landfill gas, 65% hydro
Supplier: Connecticut Energy Co-op
Details: Administration approved and paid for student proposal to switch campus athletic facility meter to green supplier, constituting +/- 10% of total school supply. Premium is +/- $40,000.

Westport (Town of), CT

Product: EcoWatt™: 6% wind, 29% landfill gas, 65% hydro
Supplier: Connecticut Energy Co-op
Details: Supplies meters for Town Hall and some recreation facilities, constitutes +/-10% of total usage; paid about $8-10k premium in a $650k annual budget; switched meters having highest rates.

Timberland Co, Stratham, NH

Product: n/a
Supplier: *Native*Energy
Details: Timberland made a donation to nonprofit group Clean Air-Cool Planet, which bought from *Native*Energy an equivalent amount of credits for wind generated in South Dakota. The 4.8 million lbs. of avoided CO2 associated with these credits will be "retired" from the marketplace, roughly enough to offset the carbon emissions of power for 28 retail stores for one year.

Kinko's, New York stores

Product: Pure Wind™ certificates
Supplier: PG&E Corp.'s National Energy Group
Details: Kinko's agreed to buy certificates associated with up to 50 percent of electric demand in its NY stores, which is up to 4.5 million kWh.

EPA Laboratory, Chelmsford, MA

Product: Customer product in response to RFP
Supplier: Purchased direct from generator
Details: 2.2 million kWh/year (equivalent to 100% of annual consumption) supplied with wind power.

BJ's Wholesale, Rhode Island and Massachusetts

Product: n/a
Supplier: SunPower Electric
Details: BJ's donates roof space on retail stores for installation of SunPower-owned and operated PV arrays. Solar "tags" are marketed by SunPower to New England customers.

State of Pennsylvania, multiple locations/agencies

Product: Custom product in response to RFP
Supplier: Community Energy, Inc.
Details: State will buy block of 50 million kWh/year of clean power (about 5% of its supply) for two years; blend of sources will include mostly hydro power, 5 million kWh/year of wind (about 20% of total), 2% from landfill gas, and some solar.

Penn State University, University Park, PA

Product: New Wind Energy™ block of 100% wind
Supplier: Community Energy, Inc.
Details: Bought blocks of 13.2 million kWh of wind over 5 years, equivalent to +/- 5% of main campus use; block approach allows school to "shop" its energy supply to lowest bidders.

Giant Eagle, Inc. grocery stores, Pittsburgh, PA

Product: New Wind Energy™ block of 100% wind
Supplier: Community Energy, Inc.
Details: Bought blocks of almost 3 million kWh of wind, over next four years, to promote community development and show environmental leadership.

Western Pennsylvania Conservancy, Pittsburgh, PA

Product: New Wind Energy™ block of 100% wind
Supplier: Community Energy, Inc.
Details: Nonprofit organization bought blocks of wind equivalent to 31% of its annual use; calculated that the wind avoids 200,000 lb. of CO2 emissions, 1,500 lb. of SO2, and about 500 lb. of NOx, equivalent of planting 27 acres of trees or removing 14 cars from the road.

Building the Clean Power Market in Connecticut

Early in 2000, Environment Northeast received funding from the Pew Charitable Trusts to explore and pursue opportunities for developing Connecticut's business and institutional markets for clean power. Our Clean Power for Connecticut project is the result. Project activities commenced in earnest in September 2001.

Primary Activities

We assist Connecticut business and institutional customers to:

1. appreciate the different impacts of competing electric power sources
2. gather information about their own power use
3. assess supply needs and potential cost impacts
4. identify and analyze power supply options
5. present rationale for clean energy to senior management
6. take advantage of subsidies or promotional programs
7. assist in the formation and recruitment of customer "aggregations" where appropriate
8. work with power suppliers/vendors to negotiate contracts, and
9. maximize public recognition of their environmental contribution.

Project Goals

The goal of these activities is to help develop a sustainable market for renewable energy in Connecticut and the Northeast. We hope to achieve this goal, in part, by gaining commitments from Connecticut businesses and institutions to purchase or install renewable energy totaling 75,000 megawatt hours (MWh) over the coming year. This is a modest but significant start, and will send a signal to other customers, to retail suppliers, and to developers of new, clean energy generation that the market in New England is ready to grow. Unless this kind of demand reaches the marketplace, suppliers and generators will have to take their resources elsewhere, and our region will continue to be supplied by a less diversified and more polluting pool of energy resources.

Strategic Approach

Environment Northeast is developing several approaches to meet this goal.

- **Businesses** – We are forming a Clean Power Working Group for large business customers. ENE is gathering research and analysis about supply options that has been prepared by think tanks, government agencies and consultants and will disseminate and explain this information to the Working Group. We will assist members of the group in finding interested suppliers and in preparing bid packages. We will also explore any cost savings that might be achieved by aggregating the demand of multiple members for clean power supplies.
- **Campuses** – Cleaner Power for Higher Education is the component of our project that assists university and college campuses in assessing their clean power opportunities, explaining the rationale for clean power to senior administrators, and mobilizing support among administration, faculty, and students.
- **Government Accounts** – Given their overarching commitment to serve the public interest, state and local government authorities are looking for ways to reduce the environmental impacts of their power supply while improving the security and reliability of the essential services they provide. The third component of ENE's project is to work with these authorities to study the most cost-effective options for meeting these goals.

Questions or interest in participating in these initiatives should be directed to Karyl Lee Hall at 860.246.7121 or klhall@env-ne.org.