

Groton gets a little greener...

New wind project will bring Groton's "carbon-free" power use to nearly 40%

In early 2008, Groton Electric's Board voted to join the Berkshire Wind Co-op. The current plan is to site ten 1.5-megawatt (MW) wind turbines on Brody Mountain in Hancock, MA for a total output of 15 MW. The Berkshire Wind Cooperative Corporation was formed as a way to own, finance, and build the project while Groton Electric's wholesale energy agent will operate it. Groton Electric is one of 14 municipal light departments to join the co-op.

Once the project is complete, Groton will receive just over 5% of the project's output. The cost of the power to us is significantly below the current and projected market prices for power. One of the reasons we are able to receive such an attractive rate is because the co-op will be able to sell the project's renewable energy credits. Private utilities purchase these credits to meet state-mandated renewable energy portfolio standards.

With the addition of this wind project, "carbon-free" power will meet almost 40% of Groton's total power needs. In 2007, hydro (water) power provided slightly more than 14% of our overall generation, while nuclear power was just over 21%.

Understanding wind energy

Wind energy is ultimately derived from the sun, which heats the Earth's atmosphere and surface. Different air masses, land surfaces, and water bodies absorb and release heat at varying rates. This creates circulation in the atmosphere. These movements of air include the jet stream at the continental scale and onshore and offshore breezes at the local scale.

Today's wind technology harnesses the kinetic energy of flowing air and then transforms the mechanical energy of a wind turbine's spinning blades into pollution-free electricity.

How a wind turbine works

Wind turbines work the opposite of a fan. Instead of using electricity to make wind, like a fan, wind turbines use wind to create electricity. The wind turns the blades, which turn a shaft connected to a generator, which makes electricity as it turns. The power is then sent to the regional power grid.

Overcoming wind power challenges

Developing a wind farm is dependent first on finding sites with sufficient wind speed. These sites can be difficult to find. Although off-shore wind is the most consistent, siting a wind farm off-shore presents other issues such as aesthetics (unsightly views) and nimby (not in my backyard) attitudes. The Brody Mountain site is one of the best "land" locations in the state of Massachusetts. Sites must also be close to transmission lines and/or load centers to be economically feasible.

Wind is intermittent, so it is less reliable than other generation sources. Its intermittent nature also poses serious challenges to the regional power grid in terms of grid stability and power quality. In addition, despite the "clean energy" nature of wind farms, other concerns revolve around noise pollution, disturbance of wildlife habitat and large unspoiled tracts of land, and threats to birds and bats.



The crew "hangs out" after pole-top rescue training

Groton gets a little greener
continued on back

CREW UPDATE

Welcome two new employees

Luke Condon - New Meterman



Luke recently left his landscaping job to join Groton Electric as our newest employee. He will be responsible for our meter department, Geographic Information System and other projects as needed. Luke lives in Ayer with his wife, Lianna and their two children, daughter Selah and son Hosea. They are also expecting their third child. Luke has many talents including dancing, singing, playing guitar and acting. He is also the Youth Pastor at the Ayer Church of God.

Jon Patterson - New Groundman



Jon recently completed a certificate program in Energy Utility Technology at Middlesex Community College. He also holds an associate degree in liberal arts. He was hired as a groundman and is the newest addition to our line crew. Jon lives in Lowell with his family. Jon likes to play guitar and his other interests include fishing and riding his snowmobile. Jon also volunteers at a local youth group in the Lowell area.

Please join us in welcoming Jon and Luke!

Groton gets a little greener *continued from front*

Creating a diversified energy portfolio

The more varied our sources of power, the better we are able to ride market fluctuations. This is becoming more difficult since the deregulation of the electric industry, because virtually all new power plants in our region are fueled by natural gas. With the skyrocketing prices of oil, comes the demand for even more natural gas. This drives up the price of electricity because of the high dependency on natural gas in the New England region.

The addition of the Berkshire wind project furthers our goal of not being overly dependent on any one fuel source. Energy from this environmentally friendly project will join Groton Electric's other energy sources, including two hydro projects in New England, the hydro project at Niagara Falls in New York, various fossil fuel sources and nuclear power.

Watt's Up?

Do you ever wonder exactly how much electricity that old appliance is using? If so, you can borrow one of two watt meters that Groton Electric keeps on hand for our customers to use – free of charge.

The watt meter measures the electricity by plugging your appliance directly into it – the meter then plugs into a standard wall outlet – the meter measures kilowatt-hours, time, and calculates cost based on Groton Electric's current residential rates. It's that simple!

If that old refrigerator is costing over \$18 per month – it may be time to upgrade to an energy efficient appliance.

Stop by our office or call Tammi or Barbara at 978-448-1150 to reserve the watt meter and find out exactly where your energy is going.

Calling all customers with pool pumps

We are asking for your help! If you have a pool pump, we would like you to consider running your pump between 11 p.m. and 7 a.m. – this saves money by shifting the high electricity use of the pool pump to the least expensive time of electricity use. If you have any questions, call Tammi at 978-448-1150.

Call first, DIG later

If warm weather has you making plans for an outdoor project that includes digging, remember to first call Dig Safe at 1-888-DIG-SAFE (344-7233). Make sure any contractors you use call first, too.

Don't think that a small hole won't matter. Even planting a shrub or putting in a fence post could be disastrous. Some lines are only a few inches underground, often where you least expect them. Damaging one could cut service for electricity, gas, water, telephone or cable. Worse, someone could be seriously injured.

Dig Safe will notify area utilities that will then mark the location of underground lines and equipment. It's smart, it's safe, and it's the law. You can also make Dig Safe requests online at www.digsafe.com.