

What in the Wind?

In 1998 New Belgium Brewing Company conducted a study to determine where its largest CO₂ emissions were coming from. It had long been thought the CO₂ released from the fermentation vessels would be our number one emitter, however the results of the study showed the CO₂ emissions from the power plant, Rawhide (which uses a combination of coal and hydro-electric energy), which supplied our brewery with electricity, was the main source of CO₂. Understanding this big picture view was important, New Belgium decided to take action.

The City of Fort Collins had initiated a wind power-purchasing program in 1998 and was looking for participants to help make the program a success. The switch to wind power would mean an increase in cost, roughly \$0.025 more per kWh, which would ultimately lead to a cut in quarterly bonuses. Being an employee owned company, the decision had to be made in an ownership meeting where 72 employee owners weighed the pro's and con's. The outcome was a unanimous vote to switch to wind power. A contract was signed, agreeing to 10 years of wind power energy and increased wind turbine usage as needed. In 1999 New Belgium Brewing Company became the first, and then the only, brewery to purchase 100% of its energy from wind power in the country.

The wind power site is located in Medicine Bow, Wyoming, owned by the City of Fort Collins, the Platte River Power Authority and other surrounding towns, and consists of a total of 10 turbines that generate almost 6,000 kW of power at optimal wind conditions. There are two kinds of turbines located at this site: 600 kW V42-600 turbine model with nameplate capacity at 16 m/s or above (36 mph) and 660 kW V47-660 turbine model with nameplate capacity at 15 m/s or above (33.5 mph), both are manufactured by Vestas-American Wind Technology. When the original contract was signed, we agreed to use the energy generated by one 660 kW turbine. Since that time, we have increased to 1.4 turbines. Some more facts on the 660 kW turbines:

- Cut in speed at 4 m/s (9 mph)
- Cut out speed at 25 m/s (56 mph) sustained winds
- Rotor diameter equals 47 meters (154 feet)
- Tower height at hub is 50 meters (164 feet)
- Total height to top of blade tip is 73.5 meters (241 feet)
- 28.5 RPM

The City of Fort Collins' Wind Program has allowed New Belgium Brewing Company to save a total of 6,194,665 pounds of coal (or 3,097 tons) from burning and reduced CO₂ emissions by 11,398,183 pounds (or 5,699 tons) by purchasing 4,955,732 kWh of wind energy since 1999 (dates reflect information gathered YTD December 2001). This confirms New Belgium's spot as the largest consumer of wind power in the program. The City has designed the program so that for each subscriber, the amount of wind, or clean, energy requested is generated by the turbines and sent directly to the city grid. While a person cannot be sure that the actual electricity they are getting is wind generated, there is the satisfaction of knowing a certain amount of coal and hydro-electricity as been eliminated from the city grid.

New Belgium's support of the City's wind power program has not only functioned as a critical portion of their membership, but also as a role model for other companies and New Belgium's employees. To date, there are at least 15 employees (10% of the brewery) who subscribe to wind power at their homes, which equals to 12 houses. We have also hosted many different businesses, school groups and various other organizations at the brewery who have been interested in learning more about our wind power energy source. Overall, subscribing to the City's wind power program has been important to us on many levels: staying true to our Core Values and Beliefs as both a business role model and an environmental steward, supporting the City's efforts to bring in a clean, renewable energy source and as a group of people with a conscience.