



# We Energies Environmental Initiatives



**Wisconsin Energy Corporation's mission includes a commitment to enhance the quality of life in the areas it serves. Our commitment includes compatibility of our operations with the environment.**

## Wind Generation

### Blue Sky Green Field Energy Center

Completed in May 2008, the We Energies Blue Sky Green Field Wind Energy Center represents Wisconsin's largest wind development to date. The site, located in Fond du Lac County, is capable of generating 145 megawatts of electricity with 88 wind turbines – enough to power more than 36,000 homes annually.

### Glacier Hills Wind Park

The Glacier Hills Wind Park is located in the towns of Randolph and Scott in Columbia County. The wind project will accommodate 90 wind turbines that total generating capacity of 162 megawatts of electricity – enough capacity to power approximately 45,000 homes annually. Construction began in May 2010 with commercial operation expected the end of 2011.



## Environmental Technology

### Air Quality Controls

The We Energies Pleasant Prairie Power Plant (P4) was selected as one of POWER Magazine's top coal-fueled plants in 2007 for its air quality control system project. As part of the Consent Decree, an agreement between We Energies and the U.S. Environmental Protection Agency, P4 retrofitted a selective catalytic reduction (SCR) system for nitrogen oxides (NOx) emission removal and wet flue-gas desulfurization units (scrubbers) for sulfur dioxide (SO<sub>2</sub>) emission removal. With these environmental control technology installations, P4 has the lowest SO<sub>2</sub> and NOx emission rates of any Wisconsin coal-fueled power plant.



## Natural Resource Stewardship

### Peregrine Falcons

Peregrine falcons are calling the We Energies power plants home. Of the total peregrine falcons born in Wisconsin, 17 percent have hatched at the We Energies power plants since 1988. In 1991, We Energies began installing nesting boxes on several of the company's power plant chimneys. Since then, 133 peregrine young have been raised in We Energies' coal-fueled power plant nesting boxes. At the Pleasant Prairie Power Plant, We Energies supported the release of 15 captive-produced peregrine falcon chicks in support of the Wisconsin Peregrine Falcon Recovery program.



## Demonstration Projects

### TOXECON Process

As part of the Clean Coal Power Initiative, a mercury removal demonstration project was installed at the We Energies Presque Isle Power Plant in 2006. The \$53 million project, co-funded by the Department of Energy and We Energies, works to reduce mercury emissions by 70-90 percent through the Electric Power Research Institute's patented TOXECON process. This process uses a fabric filter in conjunction with sorbent injection to remove mercury and other emissions downstream of the plant's existing particulate control device. This mercury removal project is one of the largest of its type currently treating flue gas from Western sub-bituminous coal-fueled units totaling 270 megawatts.



### Carbon Capture

Pleasant Prairie Power Plant demonstrated an innovative chilled ammonia scrubber technology to capture CO<sub>2</sub> emissions from a portion of the flue gas from one of the boilers. This was the first step in developing a commercial scale technology to capture CO<sub>2</sub> emissions from existing coal power plants. The pilot project demonstrated more than 90 percent capture of carbon dioxide, confirming the predicted performance of the chilled ammonia carbon capture system at an operating power plant and achieving key research metrics around hours of operation, ammonia release, CO<sub>2</sub> removal levels, and CO<sub>2</sub> purity. We are participating in Phase 2 of this pioneering research at an AEP plant in West Virginia.



## Renewable Energy

### Biomass

On Sept. 1, 2009, We Energies announced the proposed construction of a \$250 million biomass-fueled power plant at Domtar Corporation's Rothschild, Wis., paper mill site. Wood waste and wood shavings will be used to produce 50 megawatts of renewable electricity, and also will support Domtar's sustainable papermaking operations. The project would be funded by We Energies.



### Renewable Portfolio Standard

We Energies has more than 400 megawatts of renewable energy capacity from a variety of sources in Wisconsin, Michigan and the Midwest. Most of it is used to meet the Renewable Energy Portfolio Standards in Wisconsin and Michigan, which We Energies supported in the legislative process.



## Coal Combustion Products

### Beneficial Use

We Energies has several initiatives that recover and reuse materials produced from plant operations. In 2009, the company beneficially used approximately 97 percent of coal combustion products, such as fly ash, bottom ash and gypsum, system wide versus a national average rate of 44 percent in 2008. In the past nine years, We Energies provided more than 5.3 million metric tons of coal combustion products for beneficial use. Most of it is utilized as construction materials and in concrete, cement and wallboard markets. Additionally, We Energies maintains a proactive research and development program to use coal combustion products, as the company anticipates new air emission control technologies and strategies that will generate new and larger quantities of products.

