

FLINT HILLS RESOURCES PINE BEND – ENVIRONMENT, HEALTH AND SAFETY

Flint Hills Resources Pine Bend refinery is a leading producer of the transportation fuels that power the Midwest and is among the cleanest, safest, and most efficient refineries in the country.

Environmental, Health and Safety Performance Summary

- Voluntarily reduced total criteria air emissions by approximately 69% since 1997, while increasing production to help meet demand for transportation fuels
- Reduced total onsite air emissions 11 of the last 15 years
- Emissions per barrel are approximately 19% lower than other U.S. refineries
- Reduced injuries by more than 73% during the past 15 years and is a leader in advancing process safety standards throughout the industry
- Top quartile in energy efficiency among the nation's largest refineries
- Industry leader in flare management
- Received Minnesota Pollution Control Agency's Wastewater Treatment Operator Award 11 of the last 13 years

Water Conservation and Water Quality Treatment Program

The Pine Bend refinery began a water recycling program in 2006 that enables it to re-use treated water. The refinery has reduced its water use to just over half a gallon for every gallon of product produced. The refinery's wastewater treatment plant successfully processes 3.5 million gallons of water per day. The Minnesota Pollution Control Agency has recognized the refinery as an outstanding wastewater treatment operator for 11 of the last 13 years.



Combined Heat and Power (CHP) system. The refinery is constructing a state-of-the-art CHP system that will allow it to operate more efficiently while reducing greenhouse gas emissions from Minnesota's current energy supply mix. The CHP system will use natural gas and a heat recovery process to produce approximately 50 megawatts of electricity, or roughly 40% of the energy required to power the refinery. The \$150 million system is expected to be operational by 2018.



Habitat

Tree-Planting Program. Since 2008, Flint Hills Resources has planted more than 10,000 trees in Dakota County that are native to Minnesota. Many of these trees are located near area parks and help support natural flyways birds use for migration.

Habitat Restoration. Since 2000, Flint Hills Resources, Friends of the Mississippi River, and Great River Greening have worked together to improve habitat on 700 acres of property owned by Flint Hills Resources in the Pine Bend Bluffs Natural Area along the Mississippi River. Restoration efforts have focused around the protection and enhancement of native prairie plants with prescribed burns and the removal of invasive plants. Additionally, Flint Hills Resources and Ducks Unlimited have worked together to protect and enhance Minnesota's lakes and wildlife habitat since 1985. Highlights of the partnership include restoring more than 36,000 acres of wild rice lake habitat, protecting or restoring 144,235 acres of wetlands and 54,097 acres of grasslands, and permanently protecting five miles of sensitive shoreline.



Safety

Pine Bend Fire Department. Flint Hills Resources maintains a fully functioning, two-house fire department at the Pine Bend refinery. The fire department's 132 crew members, including 87 refinery volunteers, receive ongoing training on all aspects of industrial emergency response and battle live, pressurized petroleum fires at an onsite training center. The Pine Bend Fire Department also provides mutual aid industrial fire training to local fire departments as well as communities in Iowa, where Flint Hills Resources operates ethanol plants.

Safety Awards. Pine Bend has decreased recordable injuries by more than 73% in the past 15 years and has surpassed two million work hours in recent years without a recordable injury. In 2014, Pine Bend became the first facility in the country to be certified as a PRO-10 worksite. The refinery received the Governor's Safety Award from the Minnesota Safety Council in 2014 for the sixth time and was recertified as a Minnesota STAR worksite through 2018.

Air Quality and Emissions Reduction

Clean Air. The MCPA maintains a statewide network of air quality monitors, including three monitors around the refinery. These monitors show that the refinery is well within air standards and is consistent with some of the best air quality measurements found anywhere in the state.

Ultra-Low-Sulfur Diesel Project and Blue Planet

Gasoline. Flint Hills Resources began producing ultra-low-sulfur diesel fuels two years ahead of a federal requirement. In 1999, Flint Hills Resources introduced Holiday Stationstores' Blue Planet gasoline, the first low-sulfur gasoline available in all octane grades in the Twin Cities. And now, Flint Hills Resources Pine Bend refinery is making several major investments to improve the refinery's efficiency and help lower emissions, including a state-of-the-art Combined Heat and Power system and an Ammonium Thiosulfate project that will convert sulfur to liquid fertilizer and help lower vehicle tailpipe emissions.

Project Green Fleet. Flint Hills Resources is a founding sponsor of Project Green Fleet, a collaborative effort with Environmental Initiative to install pollution control equipment in thousands of Minnesota school buses, heavy-duty trucks, and other diesel vehicles. Project Green Fleet completed its successful school bus retrofit program in 2014 and launched a major new initiative to reduce emissions from Minnesota's diesel construction vehicles, thanks in part to a \$1 million grant from Flint Hills Resources.