

FLINT HILLS RESOURCES PINE BEND – ECONOMIC IMPACT

Flint Hills Resources Pine Bend is a leading producer of the transportation fuels that power the Midwest.

Since it was established as the Great Northern Oil Company in 1955, the Flint Hills Resources Pine Bend refinery has played a major role in providing the transportation fuels used in Minnesota and throughout the Midwest. Today, Pine Bend is a leading producer of fuels and other petroleum-based products and is among the cleanest and most efficient refineries in the country.

The refinery uses North American crude oil to produce gasoline, diesel, jet fuel, and other products such as propane, asphalt and heating fuels. The refinery has a capacity of 375,000 barrels per day.



- More than 1,000 full-time employees, including roughly 500 members of the United Steelworkers Local 662 Union
- Largest continuous construction site in Minnesota, with hundreds of contractors working onsite on any given day
- Approximately \$200 million in annual maintenance work
- \$1.7 billion in upgrades and improvements to the refinery since 2010



- Pine Bend is the largest private employer in Rosemount, and represents a significant portion of the city's tax base

Job creation. Statewide, Flint Hills Resources employs more than 1,000 full-time workers. Separate studies by Harrah Analytics and the Minnesota Department of Employment and Economic Development estimate that Flint Hills Resources is responsible for supporting more than 5,000 Minnesota jobs.

State-of-the-art innovation. In 2019, Flint Hills Resources completed more than \$400 million in new technology and efficiency improvement projects that will help the refinery continue to lower emissions while producing more of the fuel and other products people need and use every day. The completed projects include one of the world's largest applications of a technology that converts a traditional source of air pollution into fertilizer, a state-of-the-art combined heat and power system that satisfies much of the refinery's power needs, and more efficient heating elements that improve production while lowering emissions. The projects build on the refinery's standing as one of the safest, cleanest and most efficient refineries in the United States.



Ammonium thiosulfate technology and distribution terminal. Pine Bend's new ammonium thiosulfate (ATS) technology and distribution terminal allows the refinery to convert a traditional source of air pollution from motor fuels (sulfur) into a valuable fertilizer product that benefits farmers. One of the largest applications of ATS technology in the world, this system also helps the refinery produce ultra-low sulfur gasoline, which lowers vehicle emissions and is better for the environment.

Combined Heat and Power (CHP) system. The refinery's new CHP system is among Minnesota's most efficient sources of electric energy generation, providing about 50 megawatts of electricity, or roughly 40% of what is required to power the refinery's operations.

New heaters and improved heating elements. New and more efficient heating elements are expected to lower the refinery's overall NOx emissions by nearly 150 tons per year or 13%. The replacement of two 1950s heaters – and the refinery's largest single source of heater NOx emissions – with two new, state-of-the-art heaters, help convert a less valued asphalt-like material to gasoline and diesel fuel to help better meet demand for these products.

Modernized cooling towers. Two modernized cooling towers allow the refinery to better and more efficiently control the need to rapidly heat and cool products. These improvements are expected to save more than 15 million gallons of water per year and reduce energy consumption by at least 10%.

New gasoil fractionator. A new 670,000-pound gasoil fractionator, built in Cambridge, Minnesota and transported 60 miles to Pine Bend, will improve the refinery's diesel fuel production. The fractionator, which measures nine stories tall, allows Pine Bend to more efficiently convert less useful gas oil material to diesel fuel to meet consumer demand.

