

Valero McKee Refinery

TEEA 2013 Winner: Technical/Technology



In the Texas Panhandle, the Sunray Wind Farm has supplied an alternate energy source to the Valero McKee Refinery for over three years. Installing 33 wind turbines was a voluntary project started late in 2008 that relieved the refinery's dependence on energy generated by conventional power sources. In 2011, the wind farm provided an estimated offset of more than 1,200 tons of air emissions such as carbon monoxide, sulfur dioxide, nitrogen oxides, and particulate matter. It also reduced the amount of water needed to generate conventional electricity by roughly 70 million gallons.

Wind energy in Texas has certainly found its niche in the Panhandle, West Texas, and along the Gulf Coast as the number of turbines and generation capacity of wind energy continue to rise. In 2012, Texas led the nation in the highest capacity—1,826 megawatts—for new installation projects. Management at the Valero McKee Refinery recognized and capitalized on this potential, investing approximately \$115 million for the Sunray project.

With six turbines tied directly to the grid and the remaining 27 tied directly to the refinery, Valero has reduced its conventional power demand by approximately 33 percent. Valero McKee officials staggered the installation and use of the turbines over nine months, allowing them time to develop the best infrastructure for properly managing their new electricity source. As news spread about Valero McKee's plans for the wind farm, the alternative-energy project received great support and interest from community and local landowners.

Through Valero's commitment to expanding the use of alternative energy, the Panhandle community is reaping the benefits of cleaner energy sources.