

Wind Turbines Capture the Delta Breeze

By Susan Whitesell Photo by Jan Vick

Yes, Rio Vista has wind... lots of it. Ask any resident of Rio Vista or stand on any hill in the vicinity and you'll soon experience the "delta breeze." Look to the Montezuma Hills Wind Resource Area to the west of town and you'll see over 1,000 wind turbines dominating the landscape generating clean renewable energy, creating jobs and benefiting the local economy. There are several wind farm operators in the Montezuma Hills. Discover Rio Vista interviewed Paul Copleman, Iberdrola Renewables Communications Manager, and Christopher Capra, Sr., SMUD Public Information Specialist, to learn more about the giant wind turbines (not windmills) that dot our skyline.

The State of California requires their utilities to source a certain percentage of their electricity from renewable resources such as wind, solar, natural gas, nuclear, and hydro. But there's a lot that is attractive about wind energy in particular. "First and foremost, we're guaranteeing a long-term fixed price for our electricity," Copleman said. "We can do that because the wind is free whereas other sources of electricity generation depend on market prices for fuel. The wind is going to cost the same today as it will cost ten years from now."

The Shiloh Wind Power Plant is part of the international energy company, Iberdrola, and its U.S. subsidiary Iberdrola Renewables, which owns and operates a fleet of wind energy facilities across the country. The 100 turbines at the Shiloh plant generate 150 megawatts (MW) of electricity for Pacific Gas & Electric, Modesto Irrigation District (MID) and the City of Palo Alto Utilities customers.

The Montezuma Hills were chosen as a Wind Resource Area for many reasons, including wind speed, consistency and direction. A host of environmental factors were also taken into consideration such as impact to wildlife, habitat, and cultural resources. Additionally Copleman points out a critical factor in deciding where to build was "The ability to plug into the electrical grid and deliver our power to market." Built in 2006, the Shiloh plant wind turbines are fairly diminutive by today's standards. However, with one of the blades at the 12:00 position, each tower at Shiloh is still 385 feet vertically. If you stood a football field

upright from goal post to goal post, it would be 65 feet shorter than a Shiloh tower.

Another major player in the Montezuma Hills is the SMUD Solano Wind Farm. Currently the wind farm produces 230 MW of clean renewable power for SMUD customers in Sacramento County and small adjoining portions of Placer and Yolo Counties.

In 2012 the SMUD Solano Wind Farm completed a second phase adding 75 turbines; each behemoth is 415 feet tall with a blade tip to blade tip diameter roughly the length of a football field and blade tip speeds that can reach 200 mph.



The wind plants are not the only ones capitalizing on the delta breeze. For example, local landowners benefit too. The Shiloh plant alone leases nearly 7,000 acres from 26 local farmers or ranchers. Whether wheat or grazing land, many farmers choose to host wind plants because just a fraction of their land is actually used for the plant infrastructure.

Copleman states, "Most landowners will tell you that the footprint of the infrastructure of a wind farm, whether it's the turbine itself or the access roads, substation or operations and maintenance building, is very small and actually takes very little of their land out of production."

The terms of individual landowners are proprietary. Some

lease payments, including property taxes, can total hundreds of thousands of dollars each year. The landowners hosting the Shiloh plant facilities collectively make over a million dollars each year.

So, in short, wind energy is successful on many fronts. Copleman summarizes, "As we look at growing wind energy in the industry as a whole, it's no longer just an environmental success story, it's a local economic benefit success story."