

# Spanish Fork Press

## Celebrate Wind Power Special Section

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### Mayor Thomas Excited about Benefits of Wind Farm

Candi Higley  
SPANISH FORK PRESS

The residents of Spanish Fork City have been seeing the results of a project which has been in the works for many years. The wind farm, located at the mouth of Spanish Fork Canyon is finally finished and the city will be holding a "Sky Spectacular," in celebration of its completion the weekend of September 5 and 6.

The project has been a long one and started with a prior city counsel. Wasatch Winds, based in Heber approached the city requesting zoning and were eventually approved for the zoning. From there, residents have seen construction taking place with the eventual placement of nine turbines.

Mayor Joe Thomas is pleased with the project and believes that literally

everyone will benefit. "The benefits of this wind farm are amazing," Thomas said. "Not only will everyone be breathing clean, renewable energy, but the city and county and Nebo School District will also benefit."

Four of the windmills are located on land that the city would never have been able to use otherwise.

"A drinking well is located on the land that the city owns," Thomas said. "There is nothing else there and the land would have sat vacant forever. But now with these windmills there, the city is generating money that we wouldn't have been able to do otherwise."

Spanish Fork City, Utah County and Nebo School District will benefit financially because of the property taxes collected. Staker Parsons, Strawberry Water Users and Spanish Fork

City each own part of the property and will benefit because the owners of the project will be making lease payments.

"The land was never sold to anyone," Thomas said. "Instead we lease the land to the project owners who then make lease payments. This helps us generate money and helps local residents because their tax payments will be less."

Thomas is also excited about the city being a front runner in the wind industry. The Spanish Fork wind farm is the first urban wind farm west of the Mississippi and the second urban wind farm in the United States.

"I am absolutely delighted that this project is finished," Thomas said. "I am very proud. It is beautiful and I couldn't be happier. The wind farm is positive all around."



The best view in town, Mayor Thomas and his cohorts survey the view and wave to onlookers below from the top of a wind turbine in Spanish Fork's wind farm.

### How the windmills work, Advantages of wind power what makes them tick

Rich Harris  
SPANISH FORK PRESS

Although they are complex in construction, wind power windmills are simple in concept. Wind turns the 3-blade rotor. The rotor is connected to a generator by a gearbox and shaft. The generator runs when the windmill turns and produces power. That power is routed to the interstate electric grid through cables in the tower. It is then distributed to customers from the grid. Of course, the devil is in the details or we would all have windmills in our back yards.

Three carefully balanced fiberglass blades are connected to a hub. That hub contains motors that can

adjust the pitch of the blades (the angle of the blades relative to the wind) and a clutch connection that transfers the wind energy to a shaft. The shaft transmits the energy from the hub to a gear box in the nacelle (house on top of the tower) where the speed of rotation is increased 93 times.

The rotation energy then goes to the generator and energy of rotation is converted to electrical energy. The electrical energy from the generator moves to an electrical substation at the site via heavy electrical cables inside the tower. At the substation, the voltage is stabilized and transformed to the standard voltage used on the

electrical grid. The "conditioned" power is then sent to the grid and on to the customer.

The windmills can generate power with wind speeds ranging from a little more than 4 miles per hour to about 57 miles per hour. If wind speeds are higher than 57 miles per hour, the blades are rotated to a neutral position and the windmill shuts down.

The stresses associated with very high wind speeds can damage the machinery or the windmill itself. The entire nacelle can move through a complete circle to keep the rotor facing into the wind. Blade pitch, speed of rotation, and nacelle orientation are all computer controlled.

The advantages of wind power as we harvest it at the Spanish Fork wind farm are no fuel consumption, very low maintenance, no pollution, and no carbon footprint. Wind is free – it exists in nature as a result of differential solar heating of air masses. So long as the sun shines, there will be wind to power windmills. Initial construction costs for the windmills are significant and the construction process is monitored to extremely close tolerances. Even the towers are measured in millimeters (fractions of one-tenth of an inch). Initial adjustments must be exact. However once the windmills are placed into service, there is no fuel cost and very little maintenance needed beyond lubrication. The windmills are virtually silent. The noise level at the base of an operating windmill is far less than the noise I

hear at my home from the freeway a half-mile away. There is no smoke, soot, or even water vapor released into the atmosphere from a windmill. The land on which the 9 towers are located belongs to the City of Spanish Fork and to Staker-Parsons. The power company

pays lease fees to the land owners for the privilege of placing the windmills on their land.

Disadvantages of wind power

No power system is perfect, and wind power has

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### Spanish Fork celebrates wind power

Celebrate Wind power at Spanish Fork Gun Club, Friday Sept. 5 from Noon to Dusk. Bring your own kite to join in the fun. Public kite flying times will be interspersed with professional kite flying demonstrations.

Saturday, Sept 6, attend the opening Ceremony

at the Main Stage at 11 am and spend the day flying kites, learning about green energy, eating good food and having fun with your family and friends.

Both days see Chinese Kites, Balinese Kites and wind garden displays and a kite museum.