

SAN ROMAN WIND FARM

Project Update
August, 2016



ABOUT THE PROJECT

This is an update for community members on the progress at the San Roman Wind Farm. The wind farm consists of 31 wind turbines located on private land in Cameron County. The wind farm will generate enough clean energy to power 30,000 homes. San Roman is expected to be complete by the end of 2016.

The San Roman Wind Farm will be owned and operated by ACCIONA Energy, a global leader in renewable energy development. ACCIONA owns seven other wind farms across the U.S. and over 200 wind farms worldwide.

INTRODUCING SAN ROMAN SITE MANAGER JOHN SCHMIDT



We would like to introduce John Schmidt who will lead operations and maintenance for San Roman as the site manager. John is originally from Chicago but moved to the Rio Grande Valley in 1983 and is proud to call the area home. John

attended college in Texas and has been in the energy industry for over 30 years, working in chemical plants, power plants, and wind energy.

LATEST PROJECT NEWS

Wind turbine erection began towards the end of June and will continue to move forward through August and September. As of late July, we have begun the erection process on 16 of the 31 turbines. All of those 16 turbines have at least two of the four tower sections in place, while six turbines are near completion and only require wiring, tower cleaning, and blade re-tensioning.



Some of the on-site crew members who work hard each day to build the San Roman Wind Farm.

The construction team has been on site working since December and they will continue to do so into the beginning of October. We have completed over 164,000 hours of work to date. Crewmembers participate in a morning safety meeting each day followed by stretch and bend exercises in an effort to avoid any possible injuries. They are also reminded to stay hydrated throughout the day and watch other team members for signs of dehydration.



CONTACT US VIA OUR PROJECT EMAIL ADDRESS

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VISIT THE WEBSITE FOR ACCIONA NORTH AMERICA

www.acciona.us

We encourage you to visit ACCIONA's US website. You'll be able to find the latest news about our growing list of projects in the United States and around the world.

Para información en español, visite www.sanromanwind.com

Wind Turbine Erection



1. An installed tower base.



2. A lower mid tower section is installed



3. An upper mid tower section is installed.



4. A tower is fully erected; the nacelle and rotor are being prepared for erection.

The first step in the process of turbine erection is the erection of the base using a 500-ton crane. This section includes a sidewalk and landing (Fig. 1).

Second, the lower mid tower section (Fig. 2) is installed using the same crane. The dunnage (pieces of wood) used as crane pad mats distribute the crane's weight. Later, the upper middle tower section (Fig. 3) and the upper tower section (Fig. 4) are installed using a larger crane weighing approximately 600 tons.

Once all four tower sections are installed, the turbine will reach 287 ft in height (Fig. 4). Each tower will be equipped with a two-man service lift. Unfortunately for most of us, only the wind farm personnel that are certified and trained to use the service lift may ride it.

Next, the nacelle containing the turbine's gearbox and generator is installed on top of the upper tower section (Fig. 5). Each nacelle weighs approximately 122 tons.

Finally, the rotor assembly containing the blades and hub (which connects the blades) is installed (Fig. 6). Each rotor weighs over 93 tons. The blades are over 200 ft long.

A completed turbine is shown in Fig. 7. When the turbine is operational, it will generate electricity using the wind to turn the blades that will spin a low-speed shaft. A gear box transfers the energy to a high-speed shaft that increases the rotational speeds to the level needed by the generator to produce electricity.



5. An erected nacelle ready for rotor installation



6. A rotor (blade assembly) is installed.



7. Completed turbine