

Kern Wind Energy Association

www.kwea.org • KWEAParker@sbcglobal.net • 661.831.1038

TEHACHAPI
 Scenic Self Guided
WIND FARM TOUR

TEHACHAPI Scenic Self Guided WIND FARM TOUR



1

The rotor hub height for the four City of Tehachapi turbines is 75 feet above ground level. The blades are 7 meters (or 23 feet) in length meaning the overall height of the turbines is just under 100 feet. The 65kW turbines were de-rated to 30kW slowing them down from 45RPM to 34.5RPM. This reduces wear and tear on the turbines allowing them to run more reliably and quieter. Each of the 4 turbines makes about 45,000 to 50,000 kWh per year which is enough energy to provide the annual energy needs of 4 to 6 homes. The four turbines makes enough energy for the annual needs of about 20 to 25 homes. Depending on the year, the turbines produce about 20 to 25 percent of the annual energy used by the Tehachapi Waste Water Treatment Plant.



Aeroman 35kw two blade turbines made in Germany circa 1985

8



Danish turbines circa 1984
65 kw
15 meter or
50 foot towers

2

Touring the Tehachapi Wind Farms

by Anthony McDemas • Taste of Tehachapi

The Tehachapi area is home to the largest wind resource area in California and spring is the best time to take a self guided tour. In as little as an hour you can see the evolution of the modern wind industry around Tehachapi, which has played an important role in making wind energy one of the fastest growing energy sectors in the world. You may also be treated to a colorful display of a variety of wild flowers from poppies to lupines. If your really lucky you may see wild horses running free beneath the wind turbines.

Start your tour is just west of downtown Tehachapi were you'll see four historic wind turbines powering the City of Tehachapi's water treatment plant. These four turbines date back to the early 1980s when Tehachapi was an incubator to an infant wind industry. These 30 kilowatt turbines standing at about seventy five feet tall represent an important step that led to today's giant 3 megawatt turbines that stand nearly five hundred feet tall from the base of the tower to the top of the blade tip.

After you see the city's turbines head east on Tehachapi Blvd. towards the 'wind ridge', properly named Beusse Hills, that are most visibly covered in a variety of wind turbines. As you leave Tehachapi you'll get a better view of the hundreds of turbines covering the ridge line representing over twenty years of wind turbine technology. About a mile after you pass under highway 58, you'll turn right on Tehachapi - Willow Springs Road. Soon you'll pass several white buildings on your left which is home to General Electric's manufacturing complex that builds the electronic control systems that manage the power generated by their wind turbines. As you continue you'll pass close to older 65 kilowatt Danish turbines that were installed in the mid 1980s and are still generating power. Continuing along the road it is impossible to miss the one giant 1.5 megawatt turbine that stands much

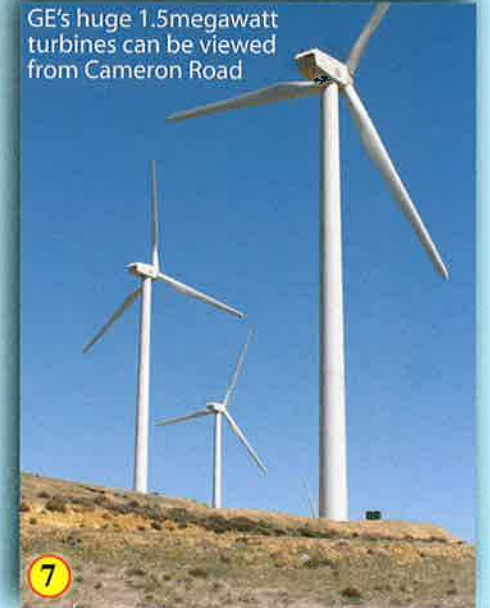
taller than any other turbine on the ridge, This is GE's test turbine that helped develop even larger turbines that you'll see later along the tour. Although impressive in size compared to the surrounding older turbines, this is considered a 'standard' sized turbine in this decade of 2.5 and 3 megawatt 'mega-turbines'. The road slowly winds up to Oak Creek Pass were you'll be surrounded by spinning turbines. **Be careful on this road as it is narrow, can be icy during winter, and some cars travel very fast on it. Make sure to pull completely and safely off the road to view the turbines.**

Next you'll descend towards Oak Creek Canyon and come to Cameron Road. Look for a well marked trail head sign where the Pacific Crest Trail crosses the road. Park your car and go for a hike north along the shoulder of Cameron Ridge and you'll enjoy nice views of the surrounding turbines. Near the point where the Pacific Crest Trail crosses the road you can sometimes see a herd of wild horses running on the slopes of the adjacent hills to the south. In the spring you'll also be treated a mosaic of wildflowers carpeting the hills. Bring plenty of water and dress properly for a variety of weather possibilities. The full hike to state highway 58 and back is six miles, but you can turn around anytime as your schedule allows.

Get back in your car and go to Cameron Road where you'll soon pass giant 1.5 megawatt turbines made by GE. As you continue north you'll see a group of tiny 35 kilowatt two blade turbines made in Germany and installed in the 1980's. These turbines were originally installed in one piece and set in place by helicopter. Follow Cameron Road to the end at Highway 58. You can return to Tehachapi if you head west on highway 58 to complete your tour of the Tehachapi wind farms.

Wind Energy Museum coming to Tehachapi

Tehachapi continues its leadership role in the global wind industry with the establishment of the California Wind Energy Museum and Resource Center. Known as The Wind Center, the concept of the museum and resource center was adopted in August 2007 by the Greater Tehachapi Economic Development Council. The Wind Center will be a place for visitors and school children to learn about how we tap this valuable natural resource for our energy needs. A variety of exhibits are planned to stress the importance wind and other clean renewable energy sources. For information go to www.calwindcenter.com.



GE's huge 1.5 megawatt turbines can be viewed from Cameron Road

7



GE's 1.5 mw XLE test turbine

3



Cal Portland Cement is home to the largest behind the meter self generation wind farm in the world with eight giant 3 MW turbines, each stand nearly 400 feet tall and each blade over 140 feet long.

6



wild horse at Oak Creek Pass stand near turbines similar to those used by the City of Tehachapi

4



5



unique blade design by Knight & Carver



*photo provided by Oak Creek Energy