



Wind Energy

Wind is an endless domestic renewable resource. A clean source of energy; wind farms produce no air or water pollution and do not interfere with land use.

Oil shortages spurred the development of alternative energy sources in the 1970s. In the 1990s, the push came from enhanced concern for the environment and climate change. Today, as the price of oil hits record highs, the development of alternative energy sources like wind are a necessity.

New technologies and tax incentives for renewable energy have decreased the cost of producing wind power, and the amount of electricity generated from wind has accelerated, tripling in the last decade. Wind machines currently generate energy in 34 states, but the Department of Energy said in its 2007 study that the US has the capacity to produce wind power in 45 states. In that same study, the DOE stated that there is enough capacity from wind to generate approximately 20% of our nation's power by 2030.

Today's wind machines stand up to 410 feet tall, with blades that stretch 148 feet in length. The machines capture the gusts of wind, actually slow down the speed of the wind and use their blades to essentially collect the wind's kinetic energy. One 3-megawatt wind turbine can produce the same amount of annual energy as 12,000 barrels of imported oil.

Wind machines will generate 48 billion kWh of electricity in the United States in 2008, enough to serve more than 4.5 million households, however that is still only a little over 1 percent of the country's total energy production. The American Wind Association reports that North Dakota alone could supply 1/3 of the nation's electricity. Denmark ranks behind the US in wind power capacity but today generates 21 percent of its electricity from wind. A 2005 study by Stanford University asserted that there is enough wind power worldwide to satisfy global electricity demand seven times over, even if only 20 percent of the power could be captured.

Wind farms usually have dozens of turbines scattered over a large area. Unlike power plants, most wind farms are independently owned, and the producers sell the electricity to electric utilities. The Wind Belt, a corridor that extends the length of the Great Plains from Texas to the Canadian border east of the Rockies, is ideal for building wind farms. Distant from both coastlines, it's the most secure place for a project of this magnitude. There is ample wind that blows nearly constantly at altitudes that average 1,950 feet.

The world's largest wind farm, the Horse Hollow Wind Energy Center, is located in the West Texas town of Sweetwater, which now bills itself as the Wind Energy Capitol. Not long ago, Sweetwater's population was rapidly decreasing; today it has become economically revitalized with the creation of new jobs and substantially increasing land value. What happened in Sweetwater is a model for small towns and rural communities throughout the heartland who embrace wind power.