



RENEWABLE ENERGY ON-SITE FIELD TRIP[®] – Wind

History of Wind Energy Technology

3,500 BC Egyptians made the earliest known sailboats, using the wind to propel boats.

600 AD The Persians of present day Iran used windmills to grind grain into flour.

1100 AD Wind power appears in Europe during the medieval period. Windmills were used to grind grain.

1300 AD The first horizontal-axis windmills appear in Western Europe to drain fields in the Netherlands and to move water for irrigation in France.

1800's American settlers use windmills to pump water along the western frontier. By the late 1880's, six million windmills had sprung up across America. Steel blades for windmills improve efficiency.

1887 The first windmill for electricity production is built by Professor James Blyth in Glasgow, Scotland.

Early 1900's Electric wind turbines appear all over Europe and are used to power rural homes and farms in America.

1920's French inventor G.J.M. Darrieus develops a vertical axis turbine shaped like an eggbeater.

1931 100 kW wind turbine built in the former USSR. This is a precursor to the modern wind turbine.

1956 200 kW, three-bladed turbine is invented by Johannes Juul in Denmark. This turbine inspired many later turbine designs.

1973 OPEC oil embargo causes oil prices to rise dramatically. High oil prices increase interest and research in alternative energy sources.

1985 California wind capacity exceeds 1,000 megawatts, enough to power 250,000 homes. Wind turbines were still very inefficient at this time.

1990's Growing public concerns about environmental issues such as air pollution and global warming encourage interest in renewable energy.

1991 The world's first offshore wind farm begins operating off the coast of Denmark.

2001 Wind energy capacity reaches 24,800 megawatts. The global wind power industry generates about \$7 billion in business.

2004 The cost of electricity from wind generation was competitive with fossil fuel generation.

2009 Global wind energy production exceeds 159,000 megawatts, employing 550,000 people and generating \$65 billion in business.

Courtesy WindWise Education

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