

Why Wind?

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January 26, 2011

There is a generation of Americans that can remember when 25 cents would buy a gallon of gasoline. Memories include the first dishwasher, color TV, electric knife, blender, and microwave oven. The list is endless. The modern age arrived and it made our lives more convenient and fulfilling than ever. Few thought about where energy came from or the effect on the environment. There were other, more pressing problems to worry about at the time, such as nuclear war, the iron curtain, and polio...things that nobody thinks much about now. Energy issues were an afterthought, if thought about at all. Now we are told we need to concern ourselves worry about the sources of our energy. We are told we need to consider renewable sources, among them wind. After experiencing the benefits made during recent generations, shouldn't Americans be skeptical? What are the benefits of a renewable source of energy, such as wind? We all know burning fossil fuels injects carbon and pollutants into the atmosphere, and wind power eliminates these emissions. However, there are benefits that go beyond the obvious "green" advantages. Let's discuss some of the major ones.

Wind is a hedge against the volatile and rising cost of energy. As of January 14 the US spot price of oil was over \$87 per barrel, up from over \$77 a year ago. Since 2005 it has gone from over \$33 per barrel to over \$130. Natural gas pricing is also volatile. Since 2005 it has moved from just over \$3 per 1000 ft³ to over \$10. Coal prices have been volatile, too. Since January of 2008 the price of Illinois Basin coal has fluctuated from over \$30 per short ton to over \$90.¹ Wind provides an inexhaustible, domestic supply of energy at no fuel cost. There is no price inflation or volatility. Once the wind farm is installed, the price is known now and for many years to come.

Wind energy has been price competitive. From 2003 through 2008 the weighted average price of wind power was competitive when compared to wholesale power prices. 2009 was a tough year for the industry. With the availability of new sources of natural gas and the slow economy, natural gas prices dropped, resulting in wind power pricing to be at the top end of the pricing range.² But, according to the American Wind Energy Association, because wind is now cost competitive with natural gas for new electric generation, utilities are locking in favorable rates. Elizabeth Salerno, AWEA Director of Industry Data & Analysis says, "Wind's costs have dropped over the past two years, with power purchase agreements being signed in the range of 5 to 6 cents per kilowatt-hour recently. With uncertainty around natural gas and power prices as the economy recovers, wind's long-term price stability is even more valued. We expect that utilities will move to lock in more wind contracts, given the cost-competitive nature of wind in today's market."³

¹ <http://www.eia.gov>

² USDOE Wind and Water Power Program – 2009 Wind Technologies Market Report – Report Summary - August 2010

³ American Wind Energy Association, Press Release, January 24, 2011

As the economy improves, natural gas and demand for electricity generated from it will be subjected to increasing demand. How long can we expect natural gas prices to remain low? Utilities can lock in constant pricing, relatively uninfluenced by the swings of commodity prices up or down. In an energy portfolio wind power is an excellent hedge against the volatile prices of other forms of fuel.

The Construction of wind farms and the supply of power that come from them provide benefits to the local economies. Wind farms generate the jobs needed to install and maintain the equipment. Demand for the equipment needed on the wind farms generates demand for goods and services that cascade through the supply chain. The wind farms provide increased revenue for farmers and land owners, and increased tax revenue for schools and communities. There is less demand for natural gas, further supporting lower natural gas prices. Furthermore, wind energy avoids the negative effects of traditional electricity generation such as water consumption, emissions of mercury and other metals, emissions from extracting and transporting fuels, lake and streambed acidification, and production of toxic wastes.

Are there challenges? There are many benefits to the technology, but the infrastructure needed to extract energy from the wind is not free. Wind farms need financing to fund property, equipment, and installation services, and there is constant pressure to drive down the cost and keep the services competitive. Back-up power is required to keep power active when the wind isn't blowing. In some cases improved grid capability is need to move the power from where the wind is blowing to where it is consumed.

Why wind? As with all forms of energy there are challenges, but wind energy is a clean and competitive part of our energy portfolio. Wind energy is good for the environment, good for business, and good for America's future.

Bio:

Scott Daniels is Managing Director of Windan[®] Consulting, focused on providing supply chain management improvement and business development services. Previously, Scott was employed with Vestas Nacelles America as Director, System Leader North America, Power Generation. Prior to his position at Vestas, he held supply chain executive positions within the transportation, aerospace, and other industries. Scott has an MBA from the University of Iowa and a BS Industrial Engineering from Iowa State University. Scott is APICS and Six Sigma Certified, and is Chairman of the ISM-Chicago Alternate Energy Committee and leader of the Wind Energy Supply Chain and Operations Group.