A Sustainable Environment: Our Obligation to Protect God's Gift

by
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Some Companies Are Making a Difference!

If you have been reading my articles, you have probably noticed various recommendations that would certainly improve our environment for now and for the future. I don't, however, wish to convey the impression that I am very critical that nothing is being done. To the contrary, there are numerous individuals and organizations that are making a contribution for the benefit of the environment. Let me give you a few examples.

TurbodynamX, Inc., a Chicago-based subsidiary of a French company (CITA), has developed a small wind turbine based on a unique technology that allows this wind turbine to produce at least 45% more energy than designs currently on the market. This turbine, shown in the photo, has a fairing, or ring, surrounding the three rotor blades. This fairing has an effect similar to that of an airplane wing. The cross-sectional shape of an airplane wing causes the air flowing above the wing to move faster than the air flowing below the wing. This causes a lower air pressure above the wing compared to below and allows the airplane to lift off the ground. Similarly, this ring around the turbine rotor blades causes the air flowing on the inside of the fairing to travel faster than the outside. Consequently, the blades are impacted by a wind speed greater than what really exists.

The performance of this technology has been verified in wind tunnel tests, and now TurbodynamX is seeking to validate this performance in the real world. Through several grants, the Illinois Institute of Technology has purchased one of the company's two 12 kilowatt prototypes of this technology and is currently looking for a site to install the unit and demonstrate its effectiveness. As opposed to wind turbines that you may

have seen in wind farms, this unit is for private use and can be installed in an urban environment.

Another Chicago-based company, Perpetual Power, is in a position to be the first company in the U.S. to install a remote lighting unit that depends exclusively on solar and wind energy. This unit, shown in the photo, is about 18 feet high and consists of a photovoltaic unit to capture solar energy, a vertical wind turbine to capture wind energy, an LED light for minimum energy requirements and a wireless camera for security. This product, manufactured by Panasonic in Japan, was introduced at the Athens Olympics and is currently in operation in Japan, Europe and just recently in Canada. It is so new that it does not exist in the U.S.

This remote hybrid lighting unit has two real benefits. First, it operates entirely on (free) renewable energy and thus does not create any global warming emissions. Second, it can be installed easily almost anyplace where there is a flat surface and does not need to be near an electrical source. Consequently, it can be installed in the middle of a park, at a marina dock, or along the center of a highway, and it can easily be removed and relocated. I am sure you will be seeing this lighting unit soon in Chicago and the rest of the U.S.

The City of Chicago has embarked on many environmental initiatives such as LEED (Leadership in Energy and Environmental Design) rated buildings, green roofs,

and a program where one company's waste becomes a raw material for another company. However, what about the small companies or individuals? Fortunately, there are several architects and developers who are following the same trend with energy efficient homes. One example is Novak Construction & Development that is currently building a house that incorporates many "green" features. Many of the building components feature high-content pre- and post-consumer recycled materials. Solar powered radiant hydronic heat is provided throughout the house, thus eliminating the need for natural gas or electric heating. Even the hot water is provided by solar energy as is most of the house's electrical needs. The total power requirement is considerably less than the average home because low energy consuming LED lighting and Energy Star approved appliances are incorporated throughout the house.

I really commend the initiatives of these three companies. We just need more of them to make a real difference.