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FreeWind™ creates valuable electrical energy at airports throughout the nation using existing technology and facilities with minimal capital investment.

Simply by using imagination and available technology, it is possible to create and distribute nonpolluting wind generated electrical energy at American commercial and military airports.

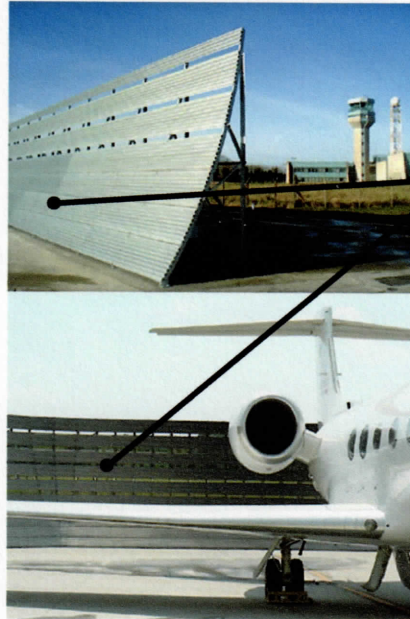
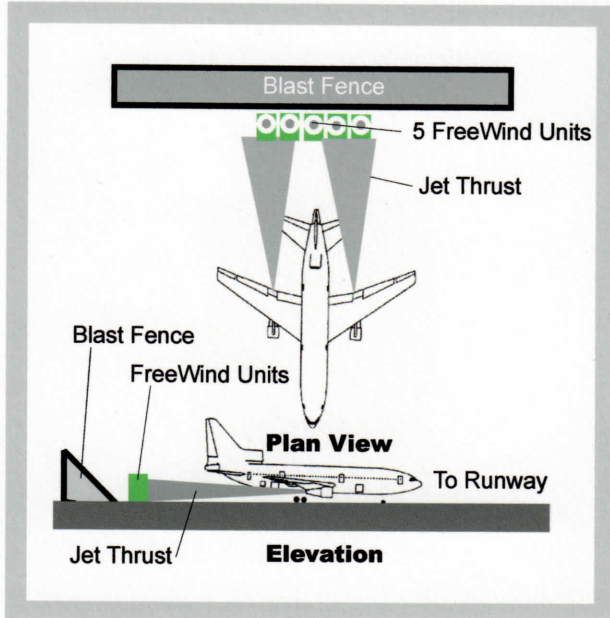
Because I was a single parent with a young son totally consumed with aviation from the age of three, I often found myself at numerous airports watching jet airliners take off in a rush of wind and a burst of earsplitting noise. The time invested in this activity must have been worth it because he is now a first officer of a commercial jet aircraft like the ones we watched so many years ago. As an industrial designer, I watched aircraft departing in a much different way. This letter is a direct result of my time watching countless aircraft take off and the effect this turbulence had on the immediate environment.



No one denies the current need for new ideas in generating electricity. There are several avenues to approach the solution. All electricity is created by harnessing movement. Hydro-electricity requires the construction of a dam, nuclear power has obvious economic and social/political limitations and wind farms are located in remote locations requiring a network of transmission lines to move the electricity to the urban power grid where the majority of electrical power is required. Wind farms are typically inefficient, only generating useful electricity 14% of the time, or less.

Prior to take off, all aircraft sit at the end of the taxiway at a 90-degree angle, perpendicular to the runway, waiting to be cleared for takeoff (see illustration on 2/3). At that point the jet exhaust can reach 300 mph. Almost all airports have a blast fence to defuse this thrust. **FreeWind** is a reinforced housing that contains a wind turbine, flywheel and generator in front of or incorporated into a blast-defusing fence. Each housing is a single unit, however, several units can be linked to increase the number of turbines and generators as space and needs demand. These generators are placed in the area of the jet blast to catch the wind produced. **Each generator would produce constant electrical energy from the first flight in the morning to the last takeoff late in the evening.**

With approximately 35,000 jet aircraft taking off at over 900 commercial airports daily, there is an airliner taking flight every 90 seconds at hundreds of commercial airports throughout the United States. FreeWind generators would be functioning at near maximum capacity all day every day creating valuable clean electrical energy for use on and around the airport. The electricity would be created using existing technology near where it is needed, not in a remote wind farm requiring the purchase of land and the establishment of costly transmission lines. **Recently, Vice President Gore said in an interview that wind energy would not become a reliable source of electricity until the issue of transmission lines can be effectively addressed. FreeWind requires no transmission lines.**



An Existing Blast Fence

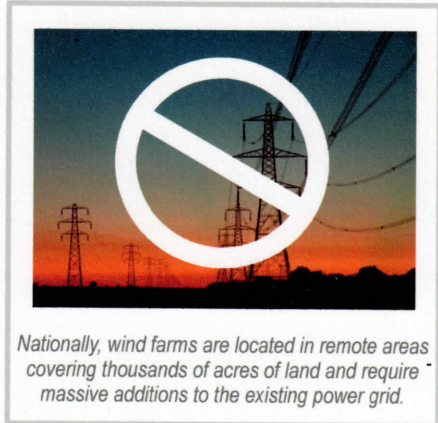


Caution sign at local airport

Wind Power and Possible Electricity Usage

1. FreeWind creates free electricity generated by departing jet aircraft twenty-four hours a day.
2. Electricity is stored at charging stations on airport property.
3. Electricity is used to support airport vehicles and LED runway lighting.
4. Electricity is sold to airport-based businesses (including retail stores and rental car agencies).
5. Electricity can be sold back to the local utility company for consumer use.
6. Goal – Provide valuable electricity for use at airports and surrounding communities, have a product that may qualify for government grant funding, provide a positive marketing tool for the airport and develop a positive revenue stream from the manufacture and sale of generators to jet served airports nationally.

I approached **Senator John McCain** with my idea because he is an aviator and my representative in the United States Senate. He was kind enough to offer support and provided me with an introduction to the Aviation Superintendent at Sky Harbor International Airport. The three persons I met with were impressed with the idea, however there was nothing they could do unless I produced a working prototype for evaluation by the City of Phoenix. Since I was not able to afford the construction of a prototype, the idea remained undeveloped for over a year. Now that I have the idea protected with a provisional US patent (61/281,541), I am able to present the idea to manufacturers, airports and investors for partnering and funding to build a patentable prototype for testing.

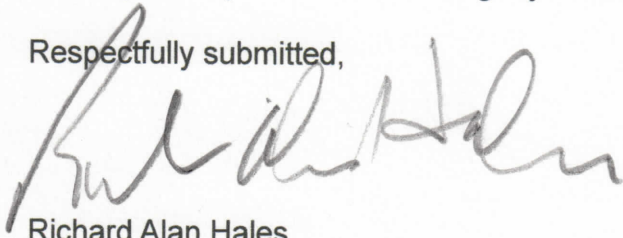


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Like Henry Ford's concept of producing affordable automobiles using mass production, I see the "FreeWind" generators as a product able to be manufactured in large multiples that would keep costs low, provide needed jobs and offer an attractive investment opportunity for manufacturers, airports and municipalities. (The number of generating units necessary per runway would be determined by size of facility and electrical need.) A conservative estimate of ten non-polluting FreeWind units per airport equals a production of over 300,000 units not counting foreign and military facilities.

Thank you for your time in reading my unsolicited proposal. I wish you well.

Respectfully submitted,



Richard Alan Hales

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