



# Analytics

Published by the Caesar Rodney Institute

---

**RELEASE: CRI - Center for Economic Policy and Analysis**

**RE: Delaware on the Dole**

**DATE: 8/28/2012**

---

The University of Delaware, in conjunction with the National Renewable Energy Lab, is seeking a grant from a \$180 million fund established by the U. S. Department of Energy for a wind turbine research project to be built off the coast of Delaware. The effort has the full support of Delaware's congressional delegation, the Markell Administration, and the tacit agreement of Delmarva Power to buy the electrical power output from the project, albeit it must be "competitively" priced.

The purpose of the grant is to improve technology whereby wind turbines can produce electrical power capable of competing in the market place without government subsidies, thereby stimulating economic development and jobs in the United States. Chasing federal dollars, 40% of which are borrowed, to attempt to reinvent the wheel is audacious if not immoral.

Wind turbines are very simple devices; consisting of a prefabricated tower, a three bladed propeller attached to a gear box driving an electric generator. The problem with the current generation of mega wind turbines is that this very simple system is subjected to very large forces of variable torque due to the heavy generator load and changes in wind speed and direction.

Offshore units are also exposed to the corrosive effects of a salt water environment and marine navigation hazards plus the higher risk of lightening strikes due their relatively isolated 300' height – equivalent to a ten story building. The University of Delaware's experimental unit in Lewes was recently struck by lightening and knocked off line - the type and extent of damage has not been made known to the public. Actual operating data has also shown that wind turbines have an on-stream factor of about a 30%, or simply stated, they do not produce electrical power 70% of the time. This is a huge production hurdle to overcome. The problems with offshore units are so great that private insurance cannot be obtained.

Wind turbines have been used for many years to supply small load electrical power demand. Cost of power generation was not the driving force – they were used to recharge battery systems, primarily on cruising sail boats, and remotely located residences. In an effort to make wind generated power "competitive" they have increased vastly in size and complexity, driving designs and the materials of construction to their limits.

Europe has led the way in wind turbine power generation by offering huge subsidies to replace fossil fuels. To date, they have been unable to achieve performance that produced competitively priced electrical power. Spain has halted all further expansion of wind electrical power production and it must be assumed that Gamesa, a Spanish builder of wind turbines, has tried but failed to design and build a wind turbine that can compete with conventional power generating systems since they are facing the ultimate loss of their market.



# Analytics

Published by the Caesar Rodney Institute

---

The odds of the University of Delaware developing new materials of construction and mechanical designs for offshore wind turbines to make them competitive do not warrant becoming “rent seekers” of tax payer dollars and incurring further national debt to fund research with virtually no chance of success to support a failed industry.

Dr. John E. Stapleford  
Center for Economic Policy & Analysis

