



**BROADSTAR**  
W I N D S Y S T E M S

**PRESS RELEASE**

## **BroadStar signs agreement with JCPenney for wind power project using innovative new wind turbines**

*Technically advanced AeroCam design is designated for U.S. retailer's Reno, Nevada, facility*

DALLAS, August 13, 2008 – BroadStar Wind Systems has reached an agreement with JCPenney to install AeroCam wind turbines at the major U.S. retailer's 1.6 million-square-foot distribution center in Reno, Nevada.

The pilot program will utilize BroadStar's innovative, building-mounted AeroCam wind turbines, which capture wind energy and generate power more efficiently than conventional propeller and fixed-blade turbines. After installation is completed in November 2008, JCPenney will purchase electricity generated by the system from BroadStar.

"This endorsement by JCPenney is particularly pleasing to our efforts," said Stephen Else, president of BroadStar Wind Systems. "The commitment by JCPenney to adopting renewable energy is indicative of a major and emerging trend in U.S. retailers to utilize their own facilities and resources to help solve the electric generation and transmission issues we face in North America. Penney's endorsement of AeroCam technology represents a great move forward in the adoption of wind turbines in the emerging commercial wind space."

Commenting on the agreement, Jim Thomas, vice president and director of corporate social responsibility for JCPenney said: "This wind power project furthers our commitment to incorporate sustainability into all aspects of our operations. We will closely monitor the results to determine how we can best leverage this technology to make use of renewable energy while also benefiting our business."

Looking radically different from conventional wind turbines, the technical breakthrough delivered by the AeroCam has resulted in a smaller, more compact and more aerodynamically efficient design which can be manufactured, transported, installed and maintained at lower cost.

The new AeroCam wind turbine enables distributed power generation in almost any setting, including rural and densely populated urban areas and in previously unconventional sites such as commercial developments and corporate campuses.

In addition, there is a unique and significant opportunity to increase energy production of existing and new wind farm developments. Conventional megawatt-class wind turbines cannot operate in turbulent environments. For this reason and to avoid the reduced efficiency and increased wear that turbulence creates, conventional propeller based turbines are spaced at least three turbine diameters apart. AeroCam turbines can be placed in the turbulent airflow *between* conventional turbines, offering wind farm developers at least a 30 percent increase in energy yield for a typical wind farm. AeroCams also are placed lower to the ground and rotate at one-fourth the speed of conventional turbines creating less, noise, visual pollution and less impact to wildlife, all without disrupting the smooth airflows that taller and larger propeller-based turbines require. BroadStar's AeroCam technology offers a practical way to infill existing farms for greater overall power generation with better economics and less impact to the environment.

"It all adds up to a solution that delivers more power and more choice of location," says Else, "with a lower total cost of development and operation and a faster payback period. The AeroCam has the potential to equip almost every local community, business and government building with its own renewable energy power source and improve the economic efficiency of conventional wind farms."

BroadStar's technical achievement delivers a 500kW and 250kW machine for \$500,000 and \$250,000 respectively and is the first turbine to break through the \$1/Watt cost barrier. Current demand in the large wind turbine space has driven costs to \$2.25/Watt price level and in the commercial wind markets to \$5/Watt. In the commercial wind space (>100kW) BroadStar believes that the price point needs to come down to below \$3/Watt in order for wind technology to be widely deployed, hence BroadStar's commercial wind turbine pricing of \$2.50/Watt.

Also more economical than most other available renewable energy solutions, and producing typically twice as much power as solar panels, the AeroCam enables communities to more easily and cost-effectively establish their own local power generation source or offset the energy they purchase from the grid, selling any excess energy generated back to the electric utility companies.

"In essence, our efficient active aerodynamic design lends itself to smaller wind turbines, which can operate closer to the ground or on a rooftop," says Else. "They can handle a wide range of wind velocities, anywhere between 4 and 80 mph. They generate their power at lower rotational speed, so there is less noise and vibration and less wear and tear. But most importantly the AeroCam can be manufactured at a lower cost than conventional turbines. This makes the overall economic aspect very compelling.

“Today there are very few turbines in the 100 to 500-kilowatt class. This is due to the high cost of ownership, sheer physical size and maintainability of existing commercial designs now evolving into a super wind turbine class of 6-megawatt machines with blades exceeding 50 meters in diameter.

“This all works well assuming unlimited transmission line capacity. Unfortunately, transmission bottlenecks are becoming one of the single biggest issues for conventional wind farms, which tend to be located in remote areas where the electricity grid infrastructure was never designed to transmit the amount of energy that can now be generated and which is now required.”

### **About BroadStar Wind Systems**

Founded in 2004 by Stephen Else and Tom Stephens, BroadStar Wind Systems, with offices in Dallas, Beijing and Coventry, England, is an engineering and technology firm, comprised of experts in aerodynamics and turbine physics, which has developed its breakthrough technology solution for the efficient and affordable generation of wind power. With its scientifically proven and aerodynamically efficient AeroCam turbine, BroadStar makes wind-power generation more accessible and affordable, and delivers a measurable return on investment more quickly than competitive solutions. For additional information, visit [www.broadstarwindsystems.com](http://www.broadstarwindsystems.com).

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