## Fallbrook's NuVinci™ CVP technology significantly lowers cost of energy in wind turbine applications

## NREL report shows potential cost of energy savings of up to 5.5%; findings to be presented at WINDPOWER 2005 Conference –

(Denver, Colo., May 15, 2005) – Fallbrook Technologies Inc. (Fallbrook), a pioneering technology development and intellectual property licensing company, announced today that a technical report from the <u>National Renewable</u> <u>Energy Laboratory (NREL)</u> shows that substantial reductions in Cost of Energy (COE) can be realized through the application of Fallbrook's *NuVinc*i Continuously Variable Planetary (CVP) transmission in a new generation of wind turbines.

The findings of the report will be presented during the WINDPOWER 2005 Conference and Exhibition in Denver, Colorado May 15-18. The report was created through a Cooperative Research and Development Agreement (CRADA) between NREL and Fallbrook.

The NREL report explores the use of a CVP as a lower cost alternative to conventional wind turbine drivetrains using power electronics. According to the NREL report, NuVinci technology can potentially reduce the Cost of Energy 5.5% or more. These COE reductions are achieved through lower capital costs by significantly reducing the power electronics required in a variable speed wind turbine. The CVP may potentially further reduce COE when it is paired with a larger generator. The report also states that the CVP can replace one stage of the three-stage planetary gearset. *NuVinci* technology is similar to a variable planetary gearset, and it can function as a speed increaser in addition to varying speed. Additionally, the CVP alleviates fatigue loads by acting as a shock absorber and also by capturing wind gusts, thus reducing torque spikes on the wind turbine drivetrain.

"We believe this is a major breakthrough in the industry's quest to further strengthen wind energy's appeal as an economically viable alternative resource," said Bill Klehm, Fallbrook's president and CEO. "In our opinion, the cost and manufacturing benefits of NuVinci technology will change the way people think about and build utility-class wind turbines going forward."

In addition to the conclusions of the NREL report, Fallbrook's own research and development efforts have identified several additional potential benefits for the wind industry:

- · Use of larger generators with higher specific power ratings
- · Additional efficiency improvements through the use of variable clamp force
- Design and manufacturing advances which further reduce costs

*NuVinci* technology is the most practical, economical and universally adaptable continuously variable planetary (CVP) transmission for human-powered and motor-powered vehicles and machines. In addition to seeking opportunities for wind-energy applications, Fallbrook has recently signed or is currently negotiating agreements for use of the new technology in automobiles, agricultural equipment, bicycles, light electric vehicles (LEVs), and all-terrain vehicles (ATVs).

Fallbrook's *NuVinci* CVP technology controls relationships of speed and torque. It uses a set of rotating balls between the input and output components of a transmission. Tilting the balls changes their contact diameters and varies the speed ratio. As a result, the *NuVinci* CVP improves acceleration, performance and efficiency over conventional transmissions. Compared to conventional wind turbine drivetrains using power electronics, NuVinci technology is simpler, more reliable, and less expensive to manufacture.

## About Fallbrook Technologies Inc.

Fallbrook Technologies Inc. (Fallbrook) is a technology development and intellectual property licensing company dedicated to improving the performance and flexibility of transmissions for vehicles and equipment. Fallbrook's revolutionary NuVinci<sup>™</sup> continuously variable planetary (CVP) technology is applicable to virtually any machines that use a transmission such as bicycles, light electric vehicles, automobiles, agricultural equipment, and utility class wind turbines among others. The *NuVinci* technology offers companies the flexibility to design and produce next generation products that are better tailored to their unique business, market and competitive requirements. To learn more about Fallbrook and its *NuVinci* technology, please visit <u>www.fallbrooktech.com</u>.