SAINT JOSEPH, Mo., Jan. 16, 2014 /PRNewswire/ -- Blue Sun Energy announced today the implementation of its enzymatic biodiesel processing technology, making the Blue Sun St. Joe Refinery the most advanced biodiesel production facility in the world.

"We have fully commercialized the enzymatic process technology and the plant is operating at full commercial scale. This process gives Blue Sun a clear competitive advantage in the market, allowing us to bring the absolute highest quality fuel to market using this industry leading technology," said Leigh Freeman CEO. "This achievement again shows Blue Sun's ability to identify and commercialize the most relevant advanced technologies in fuel production."

Blue Sun specializes in identifying promising technologies in renewable fuels and taking them to commercial reality.

The process at the St. Joe refinery produces very high quality biodiesel, which is even further improved by the state-of-the-art distillation system installed last year at the refinery.

"The process developed by Blue Sun for enzymatic transesterification improves the bottom line through lower costs and higher revenue," said Sean Lafferty, Vice President of Technology & New Business. "Blue Sun can use essentially any feedstock without limit to free-fatty-acid content. This reduces pre-treatment requirements and costs significantly. Blue Sun's feedstock advantage alone can yield a savings of 10 cents per pound of feedstock, or 75 to 80 cents lower cost per gallon of finished biodiesel."

Blue Sun's process is more efficient in methanol recovery and use, further reducing costs. In coll products, the value of glycerin produced is much higher than in standard biodiesel operations—20 to 30 cents per pound versus less than 10 cents per pound traditionally.

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Blue Sun engineers developed a unique proprietary process for enzymatic biodiesel production. This was necessary to overcome the hurdles typical in an entirely new manufacturing process.

"Commercial operations using the enzyme would not have been possible without the many discoveries and inventions of the skilled engineers at Blue Sun, and the support of our partner, Novozymes," said Bruce Baughman, Chief Operations Officer.

This new process utilizes Novozymes' *Callera Trans L®* enzyme. This is the first implementation in the world of enzymatic transesterification at significant commercial scale.

This implementation represents yet another commercialization achievement for Blue Sun, the company that established the first high-quality biodiesel specification and in 2004 introduced the most advanced biodiesel under the brand Fusion™.

The Blue Sun St. Joe plant is a 30 million gallon per year facility.

Blue Sun will soon announce its next technology breakthrough, a major milestone in renewable diesel.

About Blue Sun Blue Sun has been a leader in the alternative fuels industry since 2001. Blue Sun is a technology commercialization company specializing in commercializing research breakthroughs in the field of transportation fuels. The current focus of Blue Sun is in the commercialization of advanced technologies to build near and long-term competitive advantage, with a target of producing low-cost, and consistently high-quality fuel from non-food feed stocks. Blue Sun's ultimate goal is to reduce production costs to allow commercial production without government support. Current projects in this area include renewable diesel technology development, military bio-jet fuels, biodiesel technology upgrades at the Blue Sun St. Joe Refinery, and the acquisition of first generation biodiesel facilities to upgrade using advanced Blue Sun technology. For more information, please visit <a href="https://www.gobluesun.com">www.gobluesun.com</a>.

**About Novozymes** Novozymes is the world leader in bioinnovation. Together with customers across a broad array of industries Novozymes creates tomorrow's industrial biosolutions,

## Blue Sun Launches Most Advanced Biodiesel Plant in the World

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improving customers' business and the use of our planet's resources. With over 700 products used in 130 countries, Novozymes' bioinnovations improve industrial performance and safeguard the world's resources by offering superior and sustainable solutions for tomorrow's ever-changing marketplace. Read more at <a href="https://www.novozymes.com">www.novozymes.com</a>.

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