

Renewable chemicals naturally designed and engineered to deliver the performance that adds value to everyday products

## **Green Biologics Closes Acquisition of Ethanol Plant in Minnesota**

**Gahanna, Ohio and Abingdon UK (December 23, 2014)** - Green Biologics Inc. today announced the successful closing of its acquisition of the assets of Central MN Ethanol Cooperative LLC (CMEC). Green Biologics intends to repurpose the operation, which includes a 21 million gallon per year ethanol plant, to produce renewable n-butanol and acetone, utilising its proprietary advanced fermentation process (AFP<sup>M</sup>) technology platform.

Green Biologics Inc. is a wholly owned U.S. subsidiary of Green Biologics Ltd., a UK industrial biotechnology and renewable chemicals company. The acquisition was make through Central MN Renewables LLC. (CMR), an affiliate of Green Biologics Inc. Current management and employees will continue with CMR. The plant is scheduled to begin production of renewable n-butanol and acetone in 2016, and will continue to produce ethanol until the repurposing is completed. The purchase was in accordance with an asset purchase agreement with CMEC previously announced on December 2, 2013. CMEC was represented in the transaction by Ocean Park Advisors, LLC.

"This is a great opportunity to help Minnesota maintain its leadership position in renewables, and kick start a new renewable chemicals industry in the state," said Joel Stone, President of Green Biologics Inc. and President of CMR, "We're pleased with the local and state support from Minnesota, and we're particularly enthusiastic about the incredibly positive energy from our new team of employees and managers at CMR. We're also grateful to our corn growers and we look forward to producing clean, renewable chemicals from Minnesota corn."

N-butanol is a major performance chemical used as both a solvent and an intermediate in the production of high value derivatives such as butyl acrylates, butyl glycol ethers, butyl acetate, amino resins, and plasticizers. These derivatives are key raw materials in paints, coatings, adhesives and inks as well as cosmetics, personal care ingredients, industrial and household cleaners, food ingredients, and specialty products. According to Markets to Markets consultancy, the global n-butanol market is expected to reach \$9.4 billion by 2018, with year-over-year growth exceeding 4.4%. Acetone is a backbone intermediate in the production of methyl methacrylate monomers, Bisphenol A, aldol chemicals such as MIBK (methyl isobutyl ketone) and other high value products, and is used extensively as a solvent in paints, coatings, adhesives, inks, cosmetics, pharmaceuticals, electronics and laboratory chemicals.

"Having built our demonstration facility in Emmetsburg, Iowa and met our technology milestones, we are now moving forward with the second stage – the completion of the CMEC plant acquisition and repurposing it to renewable n-butanol and acetone production for start-up in 2016," said Sean Sutcliffe, CEO of Green Biologics Ltd. and Chairman of Green Biologics, Inc. "Our downstream markets are robust and rapidly growing, with strong demand across a wide spectrum of customers in high value performance markets. We look forward to building stronger relationships with key customers, including our customers in key downstream derivatives."

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## **About Green Biologics**

Green Biologics Ltd (GBL) is a renewable chemicals company based in Abingdon, England with a wholly owned U.S. operating company, Green Biologics Inc., based in Gahanna, Ohio. GBL's *Clostridium* fermentation platform converts a wide range of sustainable feedstocks into high performance green chemicals such as n-butanol, acetone, and through chemical synthesis, derivatives of butanol and acetone used by a growing global consumer and industrial products customer base. The platform combines advanced high productivity fermentation with superior-performing proprietary *Clostridium* microbial biocatalysts and synthetic chemistry to produce a pipeline of high value green chemicals with optimal performance in downstream formulations.

Green Biologics was named to the Global Cleantech 100 list of the top Cleantech companies in the world for 2014. The company was also #6 on the Hottest Small Companies in the Bioeconomy and #28 on the Hottest 30 list for Bio-based Chemicals and Materials for 2014.

Green Biologics is transforming the global chemicals market, providing its customers with products and technology that are more sustainable and higher value than petroleum-based alternatives. For more information, visit www.greenbiologics.com.

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