

## **Scale Up of Novel Algae Drying and Extraction Unit Operations**

### Summary for Public Release

Global Algae Innovations Inc. (Global Algae) has developed low cost algae production technologies aimed at achieving commercially viable production of biofuel and high-protein meal. Radical advances have been designed and implemented throughout the entire process, resulting in many industry breakthroughs for large-scale algae cultivation, harvesting and processing. Many of these breakthroughs have been scaled to integrated engineering scale unit operations. This project will scale the two most important and high risk remaining novel unit operations, drying and extraction, to engineering scale to reduce the uncertainty and risk of an integrated biorefinery producing algae biofuels and co-products. The objectives are scale the processes to achieve 500 to 1000 hours of cumulative time on-stream, 100 to 250 hours of continuous time on-stream, and a throughput equivalent of 12,500 to 25,000 gallons of lipid intermediate per year with a projected minimum fuel selling price of \$2.50 to \$3.00 per gallon of gasoline equivalent (GGE) and a 90% reduction in greenhouse gas (GHG) emissions relative to petroleum-derived fuels.

**Principal Investigator:** Dr. David Hazlebeck, Global Algae Innovations

**Major Participants:**

Mr. Bill Rickman, TSD Management Associates

Mr. Jaakko Nauha and Dr. Pauliina Uronen, Neste

Dr. Mike Burkart and Dr. Nitin Neelakantan, Algenesis Materials

Dr. Craig Browdy and Dr. Scott Snyder, Zeigler Brothers International