

C-neutral Biomass Gasification, Digestion and Multi-product Recycling and Recovery Facility - Woodland, California

C-Ø-Biofuels

Project Concept: the proposing consortium (see below) intends to link a newly built, state-of-the-art dry biomass gasifier (*West Biofuels, LLC*) with a multi-stage anaerobic wet biomass digester (*to-be-built*) and a high-rate algal pond system (*to-be-built*) to optimize waste product recycling and maximize production of two primary energy products – ethanol liquid fuel and electricity. Possible secondary products are: algal-derived protein powder for animal feeds, algal natural products (nutriceuticals and pharmaceutical precursors) and/or algal-derived bio-plastics. The advanced concept fully-integrated biomass conversion facility would be designed and engineered to operate as a net carbon neutral (*i.e.*, “C-Zero”) waste recycling facility (*see appended process flow schematic*).

The Team: the proposed project will apply complimentary expertise from three University of California departments: UCSD-Engineering (biomass gasification); UCSD-Scripps Institution of Oceanography (algal culture & biology); UC-Davis Agricultural Engineering (biomass digestion), and Cal-Poly, San Luis Obispo Civil and Agricultural Engineering (algal systems engineering), together with co-product anaerobic digestion expertise from the U. of Southampton, U.K., School of Civil Engineering and the Environment.