



Announcement

Invitation for Expressions of Interest

Beta Test of a Breakthrough Campus-Community Scale Bioenergy System

Letters invited on or before March 31, 2021

Impact Bioenergy, a leader in small scale organic processing facilities and Thoeni North America, leader in high solids anaerobic digestion systems invite corporations, non-profits, colleges, universities, and government agencies to respond with their interest to this announcement.

We are offering a breakthrough distributed-scale bioenergy system (named the OX), that can digest commingled food, fats, paper products, cardboard, wood, compostable plastics, and landscape waste materials simultaneously.

The system uses solid-phase continuous flow anaerobic digestion together with feedstock preparation, organic product finishing, and odor control to enable a distributed approach to zero waste practices onsite or within a small campus or community. The modular system is scalable and pre-engineered in a size range from 20 to 180 tons per month. This is the first time such a technology for food waste fermentation and bioenergy generation has been scaled down to a community or campus scale. Until now, the minimum scale and capital cost to obtain this technology has been closer to 3,000 tons per month at a cost of no less than \$20,000,000.

Impact Bioenergy and Thoeni North America have delivered over 150 Bioenergy and Biogas projects globally. This is the embodiment of the best of both our organizations.

We have developed a Beta-Version Containerized/Packaged Plant that includes both AD and second-stage compost finishing. Sizing and footprint are flexible.

We will collaborate with you to optimize the sizing for available waste, ground space, and finishing specifications. Near zero geotechnical and site civil improvements are needed. Beta Test partners would be expected to provide financial commitments that are consistent with the benefits and cost of construction. A complete drawdown statement will be delivered during operation to fully express carbon negative benefits, as well as social, financial, ESG, and other environmental attributes. A sample site plan is shown below for reference.

For reference, our companion [NAUTILUS wet technology](#) with integrated indoor farm offers a drawdown benefit of negative 12,500 MTCO₂e/yr.

Summary: the OX is a living system that converts organic waste materials into renewable energy and high-carbon soil products with zero waste. Renewable energy is generated onsite and can be used for

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heating, cooking, hot water generation, electricity generation, combined heat and power, or other energy-based processes. Finished organic products can be liquid extract, dried soil amendment, compost, manufactured soil products, or granular fertilizer products. CEA indoor farming and year-round food production can be incorporated into the design at the customer's option.

These systems have minimal moving parts, labor costs, or other operating costs. They are designed to be compatible with dense urban environments and can be adapted to a variety of architectural themes.

Interested parties are invited to submit their interest with their geographic location, available ground space, type of wastes that are available, and their vision of what success means to them for such a Beta Test.

This represents a locally available and affordable way for individual organizations and businesses to make a real and lasting drawdown of their carbon emissions and waste generation. It also creates the foundation for local circular economies around healthy food. Imagine a way to do this with new job creation that is local and meaningful. This is it.

Letters should be delivered to jan.a@impactbioenergy.com

Subject: Beta-Version OX.

Concept Site Plan - Complete OX Bioenergy Facility

