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| **1001 NW 167th Street** Number of Employees: **8** Year Founded: **2013** Region Served: **King County** http://impactbioenergy.com/**Shoreline, WA 98177 *Projected Ribbon Cutting: March 2019***  |



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|  **Commerce CEF #2 RD&D Funding: $550,000 Other Funding: $936,800 Total Budget: $1,486,800** **Ccc Expended: $509,541 Anticipated to be Invoiced: $40,459 Anticipated Remaining: $0**  |
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Impact Bioenergy

*Impact Bioenergy™ was formed in 2013, with the mission to construct and deliver the best bio-conversion technologies and services available, which will empower communities by making renewable energy and soil products locally through organic materials recycling.*

**Profile**

*Impact Bioenergy™ develops and manufactures bioenergy products that allow communities and commercial food waste generators to lessen their environmental footprint and conserve local soil resources, while also reducing their waste disposal and energy costs****.***

*This project will demonstrate the viability of small-scale biogas upgrading to renewable natural gas (RNG) from commercial food and beverage waste/biomass resources. This process occurs through the fabrication, deployment, and demonstration of the quint processing AD 185 series NAUTILUS, modular anaerobic digester, which generates: (1) renewable natural gas (RNG), (2) heat, (3) power, (4) greenhouse grade carbon dioxide, and (5) liquid organic biofertilizer (which enables water and soil conservation, and remediation).*

Impact Bioenergy's micro-digesters convert food and beverage waste at its source, eliminating the need to long-haul it. Instead, clean fuel and organic soil amendments are generated. This project demonstrates a community-scale digester on Vashon. For every 5 to 10 pounds of waste that would be ferried off, the NAUTILUS will generate 1 kWh of clean renewable electricity, or for every 50 to 100 pounds, the NAUTILUS will generate 1 diesel gallon equivalent. NAUTILUS "upcycles" 1,000 to 8,000 lbs. of food "waste" per day, enough to power more than 40 homes everyday or fuel a school bus 700 miles.

NAUTILUS is a systemic and holistic community solution that is located close to the source of organic waste and energy loads they serve. The close proximity conserves energy that would have been expended for transport and processing of materials, and centralized power generation. A lifecycle assessment of NAUTILUS underscores its carbon-neutral intensity and net-positive energy value propositions (net carbon-negative when utilized as renewable fuel for vehicles). NAUTILUS offers a virtual-pipeline that augments intermittent renewable energy like solar or wind. Biogas is continually generated and can be used for heating, cooling, baseload, backup or peak power, and vehicle fuel.

NAUTILUS will employ a unique integrated biogas upgrading system to generate renewable natural gas (RNG) that will be stored with state-of-the-art Adsorbent Natural Gas (ANG) technology where it will be compressed to up to 500 psi. With ANG storage, originally made possible by Seattle-based EnerG2, Impact Bioenergy will demonstrate economically viable pathways to clean energy and vehicle fuel that avoids the high costs, low storage efficiency and safety concerns associated with conventional approaches such as CNG or LNG.