

RESEARCH • COLLABORATION • INNOVATION

Oregon Innovation Council funding '15-'17 Oregon BEST

Joint Committee on Ways & Means

Subcommittee on Transportation & Economic Development

April 21, 2015



David Kenney
President & Executive Director
Oregon BEST



OREGON BEST BY THE NUMBERS

40+

Supported companies
in the Oregon BEST
Portfolio

200+

Oregonians working
at Oregon BEST
Companies

100+

Firms & technologies
in the Oregon BEST
pipeline

9

University labs in the
Oregon BEST Lab
Network

5 : 1

Ratio of follow-on funding
raised by companies to
commercialization
funding from Oregon
BEST

250+

Member faculty
available to help
Oregon businesses



STRUCTURE & FUNDING HISTORY

- 501(c)3 Nonprofit
- Board of Directors provides organization governance
- Commercialization Advisory Board reviews & makes recommendation on all Commercialization Funding over \$25K
- Outreach & Engagement Committee advises on events, stakeholder engagement strategies, outreach to faculty & startups
- 7 full-time staff, 1 half-time entrepreneur-in-residence, 3 interns
- 95.8% of expenditures are for programs; less than 4% for management/general & fundraising (per IRS 990 filing)
- Master agreements with OSU, UO, PSU, OIT
- Partnership agreements with Cleantech Open, Bonneville Power Administration, Element 8, OEN, OMEP, PDC, RAIN, OSU Advantage Accelerator, Sustainable Valley Technology Group – more underway

State Funding History (actual after holdbacks)

'07-'09	'09-'11	'11-'13	'13-'15
\$2.4M	\$2.8M	\$3.7M	\$5.9M

Employers of Board of Directors members

Industry members – PGE, CH2M HILL, SolarWorld (former), Yaletown Venture Partners, PNNL, NETL, Baker Group LLP
University members – OSU, PSU, UO, OIT
Ex Officio - Sen. Richard Devlin (non-voting)

Employers of Commercialization Advisory Board members

Baker Group LLP, Phoenix Venture Partners, Intel Capital, Autodesk, Chrysalix Energy Venture Capital, Ascent Partners Group, McKinstry, Battelle, PNNL, Popeye's Girlfriend Olive Oil (former Gerding Edlen exec)

Employers of Outreach & Engagement Committee members

Oregon Entrepreneurs Network, Yaletown Venture Partners, NETL, OSU, PSU, CH2M HILL, PDC, self-employed



Organization Goals & Strategies

Goals

- Support the transfer of university developed clean technologies to startups
- Increase the number of cleantech innovations that demonstrate viability, product development, and validation.
- Accelerate path to commercial success (jobs) for clean technology startups

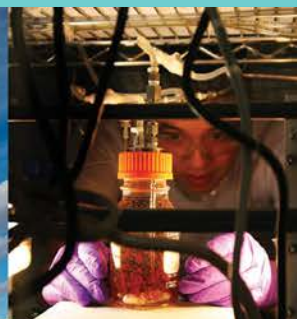
Strategies

- University technologies – faculty membership program, proposal matching, catalyst grants, company formation support, partner with UVDF, PSU Cleantech Challenge, UO Technology Entrepreneurship Program, OSU Advantage Accelerator
- Add'l cleantech startup pipeline – Cleantech Open, #ThisIsCleantech, incubator/accelerator/entrepreneur support partners (OEN, PSBA, SVTG,
- Fund company/university teams with promising technologies and business concepts
- Connect startups with technology/sector specific resources, investor connections and strategic public and private resources – national event showcasing, SBIR/STTR grant help, connections via above partners, plus corporate and investor contacts



Proposed Use of State Funds in '15-'17 - \$7.6M

\$3.5M	Commercialization Funding
\$1.0M	Other Commercialization Activities
\$1.4M	University pipeline development programs
\$1.3M	BEST FEST, Lab Network, and other outreach & engagement programs
\$0.4M	Admin & Fundraising



This is Cleantech.



Selected Portfolio Companies



COLUMBIA GREEN | Columbia Green Technologies makes engineered vegetative roofs. Their products help manage quality and quantity of stormwater, energy use, and air and water pollution. Vegetative roofs are used in cities around the world, and Columbia Green's specialized products help meet that growing demand. [Green Building](#) | [Stormwater](#)



CSD NANO | CSD Nano specializes in leading-edge nano coatings. The company sells Anti-Reflective Coating (ARC) technology to increase the efficiency of solar modules, and is developing new coatings for architectural windows. [Energy Production](#)



ECNOW TECH | EcNow Tech manufactures earth-friendly products such as compostable dinnerware made with bioplastics. The company has expertise in the design of new materials and custom packaging, and is pioneering a variety of new products using filled biopolymers. [Bioproducts](#)

ECOPOLYMERIX | Ecopolymerix is a development-stage company that will manufacture and market renewable, environmentally benign, formaldehyde-free adhesives based on proprietary technology for composite wood products. [Green Building](#)



ENERGYRM | EnergyRM provides energy efficiency metering services, program development services, software-based analytics, and financing support to the energy-efficiency sector. Their patented "negawatt" meter provides a key enabling technology for cost-effective measurement of energy-efficiency in commercial retrofit applications. [Energy Efficiency & Storage](#)



ROGUE ROVERS | Rogue Rovers LLC is developing a robotically-assisted agricultural vehicle for specialty agriculture. The vehicle includes semi-autonomous navigation capabilities and a sensor data collection system to save labor and enable cloud-based applications for vineyards and orchards. [Agriculture](#)



SHELTERWORKS | ShelterWorks Ltd. manufactures Faswall, a building block system made from recycled wood chips that is affordable, durable, and sustainable. The block material creates the forms for poured concrete walls that have excellent energy and structural performance. [Green Building](#)



STEVENS WATER | Stevens Water Monitoring Systems include water quality sensors, soil moisture sensors, and water flow measurement. The company also provides data loggers with options for short and long-range communication of environmental monitoring data. [Water & Wastewater](#) | [Agriculture](#)



SUNMARK ENVIRONMENTAL | Sunmark Environmental provides solutions for erosion control, construction impacts, and environmental restoration. Sunmark is pioneering the use of biochar from forest waste as a filter media for stormwater management. [Water & Wastewater](#) | [Bioproducts](#)



SUPRASENSOR | SupraSensor Technologies provides in-soil sensors for wireless monitoring of nitrate fertilizers in precision agriculture. Their sensors provide real-time information about fertilizer levels at any depth in a growing field. Growers can resist over-fertilization and save input dollars while reducing their environmental footprint. [Agriculture](#)

Selected Portfolio Companies



IT AIRE | IT Aire provides precision cooling systems and services for data rooms, and does so using much less energy than conventional systems. Their products provide robust and reliable cooling of small-to-medium sized data rooms, while simultaneously hitting industry benchmark levels for energy efficiency. **Energy Efficiency & Storage**



KERSTECH | KersTech Vehicle Systems is developing hybrid motors that employ kinetic energy recovery systems. These motors take advantage of frequent start-stop cycles to lower fuel usage or extend the range of batteries. Their technology can improve gas mileage in buses and trucks and extend the battery range in electric forklifts. **Transportation**



LED TRAIL | LED Trail manufactures commercial and industrial LED lighting products to help businesses and organizations use less energy, save money, and substantially reduce their carbon footprint. LED Trail is driving down the cost of LED lights to be competitive with conventional lighting. **Energy Efficiency & Storage**



LOCAL FOOD MARKETPLACE | Local Food Marketplace developed the first white label e-commerce mobile app of its kind for the food hub market. The app connects locavores with local food and the farmers that grow it, while letting customers know how and where their food is grown. **Agriculture**



LUCID ENERGY | Lucid Energy, Inc. provides renewable energy systems based on in-conduit hydropower technology. Their patented LucidPipe™ Power System enables industrial, municipal, and agricultural facilities to produce clean, reliable, low-cost electricity from gravity-fed water pipelines and effluent streams. **Energy Production**



M3 WAVE | M3 Wave Energy's ocean power device is fully submerged and installed on the ocean floor. The system captures wave energy and converts it to electricity for connection back to terrestrial grids — while remaining out of sight. It has minimal impact on both the ocean ecosystem and on commercial and recreational uses of the ocean. **Energy Production**



MTEK ENERGY SOLUTIONS | MTEK is collaborating with Oregon State University researchers to advance a new desalination technology to cut energy consumption associated with removing salt from seawater by 50%, boost potable water yields, and enable small, distributed desalination operations. **Water & Wastewater | Energy Efficiency & Storage**



NORTH WEST RENEWABLE ENERGY CORPORATION | NWREC manufactures renewable energy products including the SunCooler, a solar-powered energy optimization system for commercial buildings. The system provides ventilation and de-stratification for heating and cooling applications in lieu of or in addition to conventional HVAC systems. **Energy Production**



NRGINDEPENDENCE | NRGindependence LLC is a research company working on various aspects of energy storage. They aim to optimize and strengthen commercial standing of stationary energy storage technologies by addressing the issues that get in the way of market competitiveness. **Energy Efficiency & Storage**

Selected Portfolio Companies



ONBOARD DYNAMICS | Onboard Dynamics, Inc. is developing natural gas compressor technology that provides self-fueling capability to vehicles with \$1 GGE (gasoline gallon equivalent) natural gas from a low-pressure source, such as a home or business gas line. They sell a progression of bolt-on products that will make widespread adoption of CNG vehicles a reality. **Transportation**



ENERGY STORAGE SYSTEMS | ESS is developing an advanced flow battery technology that utilizes earth-abundant iron as its energy storage medium. The All-Iron Flow Battery (IFB) is distinguished from other energy storage technologies by its affordability when used in retail, industrial, and utility-scale energy storage. **Energy Efficiency & Storage**



PACIFIC LIGHT TECHNOLOGIES | Pacific Light Technologies is a leader in optical nanomaterials. PLT is developing rare-earth-free downconverter materials for high-efficiency solid state lighting (SSL) and displays, and is the only quantum dot company capable of on-chip integration into an LED package. **Energy Efficiency & Storage**



HM3 ENERGY | HM3 Energy has developed a process to convert biomass into clean fuel that can replace coal in many power plants. The unique process makes torrefied biomass briquettes using agricultural residue and forest waste. Use of this fuel can significantly reduce harmful emissions. **Energy Production | Bioproducts**



PURALYTICS | Puralytics has created a new photochemical technology for water purification. By using light activation, the technology destroys water contaminants without creating a hazardous waste disposal problem. They provide water purification products for laboratories, developing countries, recreational use, and stormwater management. **Water & Wastewater**



HONEYCOMB | HoneyComb Corporation's Unmanned Aircraft System (UAS) provides aerial imaging solutions for precision agriculture and forestry. The AgDrone system uses visible and spectral imaging to gather valuable data concerning crop health and resource allocation. **Agriculture**



RIDDLE LAMINATORS | With nearly fifty years of success in manufacturing custom engineered glue laminated beams, Riddle Laminators is now the first U.S. manufacturer to launch a Cross Laminated Timber (CLT) product line. **Green Building**



INDOW | Indow produces specialized thermal window inserts that are simple, affordable, and environmentally responsible. When inserted into an underperforming window, they provide insulation, comfort, and noise reduction at a lower cost than comparable double-pane windows. **Green Building**



INSPIRED LIGHT | Inspired Light brings highly efficient solar energy conversion to commercial rooftop applications. The concentrated, lightweight module collects more energy than conventional systems, reducing the cost and space needed to generate solar energy. **Energy Production**

Selected Portfolio Companies



APPLIED EXERGY | Applied Exergy is focused on grid-scale energy storage. Their system stores energy in off-peak hours by efficiently generating and storing ice slurry. The slurry is then combined with industrial waste heat to create an efficient organic rankine cycle for electricity generation to offset peak usage.
Energy Efficiency & Storage



ARCIMOTO | Arcimoto has developed a battery system that utilizes a novel, low-cost architecture. The battery pack is suitable for a wide range of electric vehicles, including e-bikes, scooters, Micro EVs, and ATV quads. The battery has better thermal management and longevity, and can be easily replaced, recycled or down cycled.
Transportation | Energy Efficiency & Storage



BUILDING ENERGY | Building Energy is bringing the world's building data to a secure platform and open application ecosystem. Designed to enable transformational improvements in building energy efficiency, Building Energy lets business managers quickly integrate their data from disparate sources and discover opportunities for improvement.
Green Building | Energy Efficiency & Storage



SWEETSENSE | SweetSense, Inc. provides low power sensors and cloud-based analytical software for use in developing countries and off-grid applications. Their technology is used by international development organizations to implement and monitor programs related to water, sanitation, household energy, and rural infrastructure.
Water & Wastewater



WALKING POINT FARMS | Walking Point Farms produces biochar-based seed coatings and soil amendments. Their products use pyrolyzed woody biomass for fast and efficient soil penetration, and are an excellent choice for both large-scale agricultural operations and environments where large equipment and dust are prohibited.
Agriculture | Bioproducts



WASTE2WATERGY | Waste2Watergy's Microbial Fuel Cell is capable of generating electricity directly from wastewater — while simultaneously accomplishing highly efficient wastewater treatment.
Energy Production | Water & Wastewater



Thank you

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