

Project Concept Summary

The Net-Zero Higher Education Project Concept is focused on the Portland Community College (PCC) Sylvania campus. The project would retrofit the PCC Sylvania Campus to achieve “net zero” – or producing as much energy as it requires on-site from renewable resources over the course of a year. This comprehensive approach will create self-sustaining systems for energy generation and distribution, stormwater collection and reuse, and wastewater treatment to meet all campus energy, water and waste demands. The focus on retrofitting and maximizing current building and campus operations means the projects will be underway and generating economic and energy benefits literally years faster than could be accomplished with new construction.

Elements of this innovative proposal include:

- **Energy Efficiency Upgrades to Existing Building Stock:** Facade, mechanical, lighting, interior and electrical upgrades to existing buildings to vastly improve energy performance and user comfort
- **On-site Renewable Generation:** Installation of geothermal facilities, photovoltaic panels and/or solar hot water panels on buildings and parking structure rooftops or adjacent sites
- **Water Efficiency Upgrades to Existing Building Stock:** Low or no flow plumbing fixture upgrades
- **On-site Storm Water Management:** Incorporation of site stormwater in landscaping, parking, and the integration of eco-roofs
- **On-site Wastewater Management:** membrane bioreactor to treat wastewater on-site
- **On-site Waste-to-Energy:** Closed-loop systems for foods and solid wastes to be used as feedstock for on-site power and thermal energy generation
- **Campus Operations Improvement:** Development of best practices in building/campus operations and training for the involvement of staff, faculty and students in maintenance, operation, planning and implementation of improvement
- **LEED Certification:** Achievement of a minimum LEED NC (New Construction) or LEED EB (Existing Building) Gold certification for all buildings that undergo major renovations and a goal of pursuing LEED-EBOM (Existing Building Operations & Maintenance) certification for the entire campus upon completion