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University of NH: Practicing What it Teaches

From its renowned environmental programs to initiating innovative green practices, the University of NH has become the state's hub for cutting-edge sustainable practices. The breadth of the University's commitment to eco-friendly practices, as well as its prominent place in educating the next generation of leaders about the importance of sustainability, earned UNH the top honor from our Lean and Green judges.

UNH is home to the country's oldest endowed sustainability program in higher education. The University Office of Sustainability was established in 1997 and is responsible for driving sustainable practices at UNH through curriculum, operations, research and engagement with other organizations locally and globally. Dr. Tom Kelly, UNH chief sustainability officer and director of the Office, says more colleges and universities are following UNH's lead including Yale, Dartmouth and Arizona State University. Yale's first sustainability director used to work at UNH's Sustainability Office and earned her Ph.D. at UNH.

The office is leading the university in using innovative technologies and forming unique partnerships. In 2006, the university's combined heat and power facility, or cogeneration plant (COGEN), went online, becoming the primary source of heat and electricity for the 5 million square-foot Durham campus. COGEN retains waste heat normally lost during the production of electricity and uses that energy to heat buildings. It is estimated COGEN will save UNH as much as \$20 million in energy costs during the next 20 years. The COGEN plant also reduced the university's greenhouse gas emissions by an estimated 21 percent between FY 2005 and FY 2006.

The University is now working to use renewable landfill methane gas from the Turnkey Recycling and Environmental Enterprises landfill in Rochester as the primary fuel for the COGEN plant. This landfill-gas partnership with Waste Management of Northern New England will lower energy costs, provide energy security and reduce the Durham campus's greenhouse gas emissions an estimated 57 percent below 1990 levels while eventually providing up to 85 percent of the university's energy needs. "It puts us in a league of our own," Kelly says of the project, adding it "shatters the myth that [sustainability is] about the economy versus the environment." The U.S. Department of Energy's Oak Ridge National Laboratory ranks UNH in the top 5 percent nationally of universities in its peer group for energy efficiency.

As the largest public transit provider in the state—it provides more than one million bus trips in FY 2007—UNH is also trying to be the greenest. Named as a "Best Workplace for Commuters" by the U.S. Environmental Protection Agency and the U.S. Department of Transportation for the past four years, UNH is



Mark Huddleston, right, president of UNH, heads for the Isles of Shoals, home of UNH's Shoals Marine Laboratory, aboard the UNH research ship the R/V Gulf Challenger, with captain Paul Pelletier.

transitioning its entire fleet of diesel vehicles to low-sulfur biodiesel. It currently has six compressed natural gas shuttle buses, four biofuel CNG/gas-powered pickup trucks, an all-electric utility van, and eight low emission diesel transit buses fueled by biodiesel.

EPA New England, in partnership with the UMass Lowell Environmental Management System Service Program, selected UNH to participate in an EPA Environmental Management System pilot initiative for colleges and universities. The initiative will help UNH develop a solid waste environmental management plan and assist it in increasing recycling efforts. UNH has both indoor and outdoor recycling containers. In 2006, UNH recycled more than 130 tons of commingled waste. A composting program instituted in 1998 has kept more than a half million pounds of food waste out of the waste stream.

Each year, the university challenges its students to help conserve energy through the Student Energy Waste Watch Challenge. The combined 2006 and 2007 challenges resulted in saving 299,193 kilowatt-hours in electricity and \$40,000 in energy and water costs. That's the equivalent of taking 41 passenger cars off the road for one year, or 440 barrels of oil. "I think [sustainability] is part of the DNA of the institution," says UNH President Mark Huddleston. "It's about taking into account costs that were previously ignored and pumped

out into the environment. We need to model those things we talk about. We need to ensure the next generation is mindful of these things."

On the education side, UNH offers a range of classes on sustainability. For the last seven years, more than 750 students have taken Earth Sciences 405: Global Environmental Change, an undergraduate course where students study the relationships among global environmental change, climate and health. Students also develop recommendations to reduce greenhouse gases. UNH also offers a Masters of Arts in Environmental Education and has a Natural Resources and Earth Systems Science Ph.D. program. UNH is the first land grant university to have an organic dairy farm, a research center for organic production and management. The UNH Environmental Research Group includes centers that study storm water, recycled materials and contaminated sediments.

The Cooperative Institute for Coastal and Estuarine Environmental Technology is a partnership between UNH and the National Oceanic and Atmospheric Administration to develop and apply technology to detect, prevent and reverse the effects of coastal pollution and habitat degradation on coastal ecosystems.

"We have to keep pushing that envelope and look at regionally how we can coordinate policies and institutions to reduce emissions and adapt to a changing climate," Kelly says. ■