



June 2008

NJHEPS

From the Executive Director:

New Jersey's higher education institutions are certainly very busy working on sustainability issues and projects these days. You might have seen in the news that Rutgers Board of Governors approved on 12 June the installation of a 7 acre "solar farm" to supply 10% of the Rutgers Livingston campus with electricity. This project, at 1.5mw of capacity, will be three times larger than the existing largest solar array in New Jersey (454kw at Monmouth University), and the second largest in the country on a college campus (according to AASHE). This array will reduce GHG emissions by 1,350 tons per year, and will initially save \$200,000 in annual electricity costs, with savings increasing to \$300,000/year as electricity prices rise over the next 15 years. Rutgers also has begun a five-year program to retrofit or replace lighting fixtures which it expects to generate annual energy cost savings of \$4 million to \$5 million, and reduce electricity use by more than 42 million kilowatt hours per year, and is replacing 40-year-old high-temperature water lines on the Busch and Livingston campuses with new, energy-efficient pipes. By the end of that project in 2010, Rutgers expects to realize fuel savings of more than \$2 million per year.

Meanwhile, in the area of green design and construction, Montclair State has signed a unique agreement to enter into a comprehensive green construction and operation Memorandum of Understanding (MOU) with the US EPA, the first such agreement by US EPA educational institution in the nation. The MOU spells out management and operational principles ensuring that Mont-

clair State meets high environmental standards and reduces its carbon footprint. The goal of this MOU is to ensure that green activities and sustainability will be integrated into all facility operations. This will include reviewing the usage of solar and steam energy; large-scale recycling of paper, plastic, and food waste; water and land conservation, as well as incorporation of green building technology and materials for new construction.

Princeton has been active as well, having received a gift from the High Meadow's Foundation to support nine sustainability projects that focus on research, education, and civic engagement within the University's Sustainability Plan. Such initiatives include a course that evaluates energy efficiency in local homes, a new sustainability curriculum for Outdoor Action participants, and the installation of a student-designed garden at Forbes College.

Finally, we have reliable anonymous sources telling us that a major private university in New Jersey will soon announce that they are buying 100 of their energy as renewable wind energy, and of course we have 14 presidents that have signed their institutions up for the American College and University Presidents Climate Commitment (ACUPCC), joining the other 555 signatories in trying to become "carbon-neutral". So while all of these projects are different, they point out that sustainability is rising to the top as an issue of importance at New Jersey higher education institutions.

One common theme from many of the recently announced sustain-

ability projects is that many of them are not only sustainable, but save money as well. The three Rutgers projects alone will save between \$6.2m and \$7.3m per year in annual operating costs, an important factor in today's tight budget situations for most New Jersey higher education institutions. NJHEPS is very cognizant of this theme, and in fact are planning our first Summer Clean Energy Workshop on 30 July, to highlight some of the energy- and cost-saving features such as combined heat and power (CHP) systems that New Jersey schools are either installing or considering to install over the coming years. Energy conservation, greenhouse gas reduction, green design and research and education projects are a 12 month a year effort, and NJHEPS is ready to work with our schools to see how we can implement sustainability and thus save money and better fulfill our educational mission.

We welcome your ideas and thought on how NJHEPS can do this better over the next 12 months, and thank you for your support at our 45+ higher institution members, and the support shown by the recent renewals of our NJHEPS corporate sponsorships by firms such as New Jersey Resources, PSEG, Honeywell, Siemens, Johnson Controls and Atlantic City Electric.

So enjoy your summer, if you have the time, in this busy task we have taken upon ourselves!

News

Rutgers Board of Governors Approves Construction of Solar 'Farm' on Livingston Campus

The Board of Governors of Rutgers, The State University of New Jersey, today gave the green light for the construction of a solar energy facility that will generate approximately 10 percent of the electrical demand of the Livingston Campus and reduce the university's carbon dioxide (CO₂) emissions by more than 1,350 tons per year. Nearly half the \$10 million cost of the project – \$4.9 million – will be subsidized by a rebate through the New Jersey Board of Public Utilities' (BPU) Clean Energy Program, with the remainder funded by Rutgers. The university expects to recoup its \$5.1 million investment within seven years. Rutgers will construct a \$10 million solar energy facility on the Livingston Campus. "Rutgers is a national leader in the effort to bring environmentally sound practices to higher education," said Rutgers President Richard L. McCormick. "Whether it is waste reduction, recycling or energy conservation, we take great pride in our commitment to responsible environmental stewardship, and we believe this solar energy project will serve as a model for other institutions to emulate." Seven-acre facility is first solar energy project of this size in New Jersey.

"This project makes good sense economically and environmentally," said Antonio Calcado, Rutgers' vice president for Facilities and Capital Planning. "The solar array will generate more than 1,500 megawatt hours of electricity in the first year, offsetting the need to purchase power from PSE&G or draw on the capacity of the university's gas and oil-fired cogeneration plant." According to Calcado, the solar energy project will save Rutgers more than \$200,000 in its first year of operation, rising to more than \$300,000 in annual savings by the end of the 15-year program. In addition, the annual 1,350 ton reduction of CO₂ emissions from the university is equivalent to saving more than 28 hundred barrels of oil, or 640 tons of coal.

Construction of the solar farm is expected to begin this fall and to be in operation in spring 2009. The facility will be located on an open parcel of land at the northeast corner of the Livingston Campus in Piscataway, bordered by Berrue Circle, Road 2 and Suttons Lane. The ground-mounted array will comprise more than 7,000 solar panels about four-feet high.

The solar energy facility is only the latest in a series of cost-saving and environmentally friendly initiatives implemented by Rutgers:

- * A five-year program to retrofit or replace lighting fixtures. When completed, the university expects to see annual energy cost savings of \$4 million to \$5 million, and reduce electricity use by more than 42 million kilowatt hours per year.
- * Replacing 40-year-old underground, high-temperature water lines on the Busch and Livingston campuses with new, energy-efficient pipes. By the end of the project in 2010, expects to realize fuel savings of more than \$2 million per year.
- * A software program at its cogeneration plant that will allow more efficient operation of the facility.
- * In April, captured the "Gorilla Prize" in RecycleMania 2008, by collecting more than 2.7 million pounds of recyclables during the 10-week contest.
- * The federal Environmental Protection Agency (EPA) named Rutgers "WasteWise Partner of the Year for 2007" for its food organics recycling, traditional recycling efforts and Chemical Reclamation Program. During the 2007 reporting period, the university's waste prevention initiatives resulted in more than 15,800 tons of material that was either recycled or reused, saving Rutgers almost \$840,000 in landfill costs.

Contact: E.J. Miranda: 732-932-7084, ext. 613 or emiranda@ur.rutgers.edu

NJHEPS Summer Energy Workshop

July 30th, 9 am to 2 pm: University Commons, Ballroom B; William Paterson University; Wayne, NJ

Keynote Speaker: Dr. Martin Ludwig: Wayne Townships' Cogeneration & Renewable Energy Project
Dr. Ludwig has 50 years experience in business and private practice covering a number of disciplines including industrial engineering, energy engineering, strategic and financial planning, marketing, etc. He is Chairman of the Wayne Campus Cogeneration & Renewable Energy Project for the Township of Wayne from the inception, and Principal of Halt Systems. Adjunct Professor, College of Business, at William Paterson University retired.

Other Speakers include representatives from: USGBC NJ, William Paterson University, and UTC

Please register via Acteva: <http://www.acteva.com/booking.cfm?bevaid=161688>

Events

Solid Waste Resource Renewal Group's Essex County Food Waste and School Recycling Forum

June 25, 2008: 8 a.m. to 2:30 p.m.
Montclair State University

YOU ARE INVITED TO A FREE forum on optimizing recycling at K-12 schools and higher education institutions, hosted by the Solid Waste Resource Renewal Group (SWRRG), Montclair State University, Essex County, and Sodexo Campus Services.

Why should you care about school recycling and school food waste recycling: Waste audits at New Jersey public schools have shown that a school with a good recycling program for paper, cardboard, bottles and cans will find that 90% of the solid waste left is food waste. So, if a school recycles its paper, cardboard, bottles, cans and its food waste, it will be left with almost no trash at all. Not only will this save the school money (indeed, the school may even get paid for things like paper), but it presents students the most immediate object lesson in resource management imaginable.

Many New Jersey schools, both K-12 or higher education institutions, lack a recycling system, or do not make their system highly visible to students, so that it becomes clear that the system is not being truly taken seriously and reinforced by the school. If physical resources—the aluminum in cans, the oil in plastic bottles—are not important enough for a school to spend the time and effort collecting them to make the new items we are encouraged to purchase each day, why should a student give credit to any of the environmental warnings they hear about running out of resources and creating global warming in the process? Why should a student at such a school trust the lessons they are being given in class which indicate that we live on a finite planet and that matter and energy are not created or destroyed? Why, indeed, should students be interested in science, since every scientific discipline—chemistry, physical science, even biology—teach things which are contradicted each day by the way the world is run, as if there were no physical or chemical or biological limits at all?

Speakers include:

- * Dr. Nicholas Smith-Sebasto of Montclair State University, will describe an in-vessel food residuals composting project at Montclair State University.
- * Priscilla Hayes of the Solid Waste Resource Renewal Group will present lessons learned on successful K-12 school food waste programs.
- * Gray Russell, Environmental Affairs Coordinator of Montclair Township will present on composting and education in public settings.
- * Dean Robert Prezant from Montclair State will describe the “green” efforts of the state’s second largest university.
- * Tara Casella, Essex County Parks and Jared Eudell, PMK Group will present on Essex County’s “green” efforts.
- * Lorraine Graves, United States Environmental Protection Agency will present on free services her agency offers.
- * Stuart Orefice, Dining Services, Princeton University, will present on a successful food waste recycling program which hauls waste to pig farms.
- * Pat Kenschaft, Cornucopia Network will present on home composting and the community.
- * Jennifer McDonnell, FOR NJ Steering Committee Member, will present on an exciting new way to help New Jersey enter a new sustainable era.

Organized by Montclair State University Essex county & Rutgers/NJAES Solid Waste Resource Renewal Group (SWRRG).

To register contact Ellen Vastola at Vastola@aesop.rutgers.edu or at 732-932-9155 ext. 233

MAJOR SPONSORS FOR THE EVENT AND THE SERIES OF WHICH IT IS A PART:

- * United States Environmental Protection Agency, Region 2
- * Premier Management Group

ADDITIONAL SPONSORS INCLUDE:

- * TerraCycle, PSEG, Trenton Fuel Works, Peninsula Compost, Converted Organics Gaia Strategies, and Bayshore Recycling

Want to share progress towards sustainability on your campus? Please send news items to Terra Meierdierck (tmeierdierck@njheps.org) for inclusion in our newsletter.

NJHEPS GRATEFULLY ACKNOWLEDGES THE SUPPORT OF:

NJHEPS Corporate Sponsors; Geraldine R. Dodge Foundation; New Jersey Board of Public Utilities; New Jersey Clean Energy Program; ATT Foundation; and NJHEPS 40+ Member Institutions

NJHEPS STAFF

John L. Cusack, Executive Director
Terra Meierdierck, Program Manager
Shruti Patel, Webmaster

EXECUTIVE COMMITTEE

Reginald Luke, President
Daniel Watts, Immediate Past President
Clint Andrews, Vice-President and Treasurer
Peter Jansson, Vice-President
Lynn Stiles, Vice-President
Shana Weber, Vice-President

SENIOR ADVISOR

Donald Wheeler

New Jersey Higher Education Partnership for Sustainability
c/o NJIT - YCEES
138 Warren Street
Newark, NJ 07102
p: 973.642.4881
f: 973.642.7170
www.njheps.org

Happenings

Montclair Demonstrates Aerobic In-vessel Composting of Food Residuals

As a demonstration of the contribution that colleges and universities can make toward reducing the amount of greenhouse gases that are released into the atmosphere as a result of human activities and as a demonstration of how simple actions may have a profound effect on the solid waste stream in America, Dr. Nicholas Smith-Sebasto has been demonstrating an aerobic in-vessel composter on the campus of Montclair State University for the past year. Each year, Americans discard approximately 31 million tons of food scraps, most of which is landfilled. Transporting the waste to landfills releases enormous amounts of CO₂ into the atmosphere. When food scraps and other organic wastes are landfilled, CH₃, or methane, is also released into the atmosphere. Methane is another greenhouse gas, but about 20 times as effective an insulator as is CO₂.

Food scraps are collected from two of the six kitchens on the MSU campus. Food service workers from Sodexo, the contracted food service provider on campus, collect the scraps in 5- or 10-gallon buckets with lids. With the assistance of three undergraduate students, Dr. Smith-Sebasto processes the food scraps three times per week. He weighs each bucket and records the weight in an Excel spreadsheet. The food scraps are then loaded into a biomixer to which wood chips are added to absorb excess moisture and to provide a carbon source for the microorganisms that biologically digest the food scraps. He obtains his wood chips for free from a cabinet manufacturer and lumber yard in Paterson. When the food scraps and wood chips are mixed properly, the mixture is loaded into a rotary drum where the decomposition occurs. Bacteria breakdown the food scraps into stable compost in three days. After 3 days, the compost is off-loaded and used on various campus landscaping projects.

For the 2007-08 academic year, Dr. Smith-Sebasto processed over 25,000 lbs. of food scraps. According to the United States Environmental Protection Agency, by diverting this amount of food waste from a landfill, about 13 metric tons of CO₂ emissions were avoided. Plans for expanding the project to service all six kitchens on the MSU campus are underway.

Dr. Smith-Sebasto is a member of a newly formed group known as FOR NJ, which stands for Food and Organics Recycling for New Jersey. FOR NJ is sponsoring food recycling forums in every county in the state. Interested parties should contact Priscilla Hayes at 732-932-9155, ext. 233. Or Dr. Smith-Sebasto at 973-655-7284 or at smithseban@mail.montclair.edu.

Montclair Signs Environmental Pact With EPA

Last week Montclair State University became the first educational institution in the United States to sign a pact promising the federal government it will take steps to reduce its carbon footprint. In a memorandum of understanding with the U.S. Environmental Protection Agency, the university agreed to use the latest "green" technologies for construction and operations on its 264-acre campus. That means the university will continue efforts to reduce pollution, recycle and find new ways to use solar and steam energy, among a slew of other measures. "This is an historic occasion for Montclair," said university Provost Richard Lynde during a signing ceremony on campus. "We hope we can help the EPA get more campuses to join us." The voluntary memorandum is a fairly new concept at the EPA, which has entered into similar agreements with the Mets for the construction of its new stadium, and with Destiny USA for the building of a new mall in Syracuse, according to Joann Brennan McKee, a deputy director in the EPA's Region 2 office in New York. "This agreement acknowledges the efforts Montclair has already undertaken," McKee said, "as well as going forward with any new construction done in a green way." * From NJ.com