

Monmouth University - EPA Memorandum of Understanding Update Report - July 16, 2010

This is Monmouth University's third Update Report on the various activities identified in the Memorandum of Understanding (MOU) entered into between Monmouth University ('Monmouth' or 'the University') and the United States Environmental Protection Agency (EPA) on January 16, 2009.

This Report is organized in accordance with the main headings of the MOU.

GreenPower Partnership

In March of 2009, the University submitted an application to become an EPA GreenPower Partner. The application was submitted based on our operating solar PV system, described below. We were informed that our application could not be accepted because we sell the Solar Renewable Energy Certificates that the system generates, and therefore could not claim the renewable energy or environmental benefits of the system under the GreenPower Partnership program.

Beginning in July of 2009, the University has contracted with Hess Corporation for the purchase of approximately 17,500,000 kWh of electricity annually. 10% of the actual electricity purchased is green power, in the form of National Green-e Non-Specific energy certificates. Based on estimated annual quantities, we will purchase approximately 1,750,000 kWh of green power annually. This represents approximately 8.7% of our total electricity consumption. For the period January 1, 2010 through May 31, 2010, we purchased 660,433 kWh of green power. Based on our use of green power, we re-applied to become a GreenPower Partner on June 29, 2010.

As mentioned above, the University has a 455kW solar PV system operating since September 2006. This system continues to produce power for our on-site use, and reduce greenhouse gas emissions. For the period from January 1, 2010 through May 31, 2010, the system produced 228,885 kilowatt hours of electricity. This represents approximately 3% of our total energy consumption. During this same period, the system resulted in a reduction of 335,270 pounds of CO₂ emissions, as well as reductions of 373 pounds of NO_x and 1,039 pounds of SO_x emissions.

The University continues to look for on-site green power generation opportunities. However, financial incentives for both solar PV and wind generated power are not sufficient to make either technology economically feasible for us, particularly since non-profit entities such as Monmouth University cannot take advantage of the federal tax credit and the accelerated depreciation for renewable energy systems.

ENERGY STAR Building & Plant Partnership

On March 4, 2009 Monmouth became an EPA ENERGY STAR Partner.

Electricity and/or natural gas usage data has been entered into EPA Portfolio Manager for 31 campus buildings, representing over 1,000,000 sf. Fifteen of these buildings are not residence halls, so benchmark ratings are not available. Benchmark ratings for the residence hall buildings are not available since many of these buildings are individually metered for only one energy source. Analyzing energy usage using the Portfolio Manager report generation function shows that for the 12 month period ending April 30, 2010, weather normalized source energy usage was 2.2% below the weather normalized source energy usage for the 12 month period ending April 30, 2009.

In June of 2010, Monmouth University issued a purchase order for a campus-wide building control system expansion and consolidation project. The project will include tying several existing individual building control systems into a centralized control interface, and the capability to tie future control systems into the centralized interface; installation of utility meters in all major campus buildings so that each utility will be separately metered at each of the buildings; and installation of Vycon Energy Suite energy management software which will enable us to monitor and control energy use from the centralized interface. The project is expected to be operational by the end of the summer, 2010.

The University has committed 1.1 megawatts to a PJM Demand Response program for the summer of 2010. 835kW was committed during the summer of 2009.

As in previous years, Monmouth University, through the New Jersey Clean Energy Program, hosted a lighting fair in conjunction with Earth Day. At the fair, high efficiency lighting products were offered to the campus community and the community at large at significantly reduced prices. Approximately 250 CFLs were distributed. A lighting fair is being planned again for student move-in day 2010 and Earth Day 2011.

GreenScapes Partnership

Although Monmouth committed in the MOU to become an EPA GreenScapes Partner, we understand that as of February 1, 2009 the GreenScapes program will no longer be a member program but will continue to issue guidance on water conservation and re-use of industrial materials dealing with landscaping activities.

The following practices are employed on campus:

- Bedding trays and plant containers from annuals and other greenery are recycled and reused for the next planting season
- Plastic commercial containers are triple rinsed and recycled
- Used oil and tires from vehicles and equipment are recycled
- Equipment is cleaned with compressed air whenever possible
- Recycling receptacles are provided next to trash receptacles
- Mulch is placed over a plant's root zone to reduce moisture evaporation and conserve water
- Grasscycling-grass clippings are left in place when mowing
- Areas in need of treatment are spot treated whenever possible
- Mulch is used around trees and in flowering beds as weed prevention

- An Integrated Pest Management (IPM) program has been implemented
- Organic, biobased, or slow-release fertilizers have been utilized
- Weeds are hand cultivated
- Drought tolerant plants are used
- Our Web based irrigation system covers approximately 6 acres. The system allows access control from a wireless handheld device, a computer with network capabilities, or a PDA. The network control service allows water savings based on weather and transpiration values. The controller automatically adjusts the irrigation operating schedule to coincide with the local conditions.

WasteWise Partnership and Solid Waste Recycling

On March 13, 2009 Monmouth became a WasteWise Program Partner. Baseline data and data for 2009 and for January through May 2010 have been entered into the WasteWise Re-TRAC database.

Monmouth continues to enforce recycling of the following materials: glass, aluminum and bi-metal containers; paper; cardboard; and electronic devices. During the period from January 1, 2010 through May 31, 2010, 1622 cubic yards of cardboard; 559 cubic yards of comingled bottles/glass/plastic; and 361 cubic yards of mixed paper were recycled. For the period January 1 through May 31 2010 and including the recycling of metals, textiles and furniture, our diversion rate is 12%, up from a 10% diversion rate for calendar year 2009.

The Waste and Recycling Committee of our Sustainability Advisory Council (the SAC is further discussed below) has identified a goal of increased recycling on campus. To this end we have engaged the services of a consultant, WasteNot Solutions, which is registered as WasteWise Endorser. We will be meeting with WasteNot in the next few weeks to discuss ways to increase our recycling efforts.

Re-use of Industrial Materials

The University is committed to incorporating EPA's tools and initiatives for re-use of industrial materials into construction and renovation projects and campus operations. During the period covered by this Update Report, no projects allowed for the reuse of industrial materials.

Coal Combustion Products Partnership

Monmouth was welcomed as Coal Combustion Products partner on May 26, 2009. The only active construction project on campus during the period covered by this Update Report was a new residence hall. Construction on the residence hall began in March of 2009, but design was completed several years ago and coal combustion products were not specified. As such, no coal combustion products were used during the reporting period.

National Clean Diesel Campaign & Clean Construction USA

We understand from Jenna Salomone, the EPA Region 2 Mobile Source Team lead for Clean Diesel Construction, that there is not a specific process for joining Clean Construction USA as it is not a partnership program. However, we did participate in a conference call with Ms. Salomone and others from the Clean Construction USA team on March 12, 2009 to learn about the program.

Monmouth University enforces a “no idling” policy on all construction sites, and for all vehicles throughout the entire campus.

WaterSense Products

Monmouth has developed and deployed a Sustainability Web page. A link to WaterSense products is included on the page.

For the period January through May 2010, 12,481,000 gallons of water were used on campus. This represents an increase in water usage compared to the same period in 2009. However, a new 150,000 square foot building came on-line in September of 2009. Adjusted to a per-square-foot-of-building comparison, our water usage remained the same during these periods.

Sustainable Design, Construction and Operations Practices

No design or construction projects during the reporting period were designated for LEED certification. All future construction projects will consider LEED certification early in the design process.

The University continues to use green cleaning products wherever possible in campus facilities. Green cleaning products include glass cleaner, all-purpose cleaner, and floor cleaner.

Campus and Community Involvement

The Monmouth University Center for Human and Community Wellness and the School of Social Work are working to establish the Monmouth University Community Garden. The Community Garden will be available to people in the surrounding area to gather, garden and be a part of our community. The garden will also be open to elementary school children for educational purposes. The Community Garden will be organic, local and a great place to learn about healthy foods and a healthy social and physical environment to grow them in.

The Monmouth University Sustainability Council (SAC) was formed in January of 2009. It is an interdisciplinary work group of over 30 volunteers comprised of Students, Faculty, Staff and Administrators. The mission of the SAC is to promote environmental awareness and encourage the development of an environmentally responsible and sustainable campus community in its operations, education, research, outreach and services. The SAC will propose and research energy and environmental sustainability policies and initiatives, and recommend specific policies and initiatives for the University to implement that will advance the University’s sustainability goals. The SAC has established a committee structure for its research, with committees for Finance and Procurement; Outreach; Academic Programs and Research; Energy; Land and Water; Waste Management; and Greenhouse Gas.

The SAC met twice during the period January 2010 through May 2010. As mentioned above, the SAC is leading an initiative to reduce waste and increase recycling on campus. The SAC also completed the Sustainability Webpage, which can be found at:
<http://www.monmouth.edu/resources/SAC/default.asp>

The Monmouth University Urban Coast Institute (UCI), founded in September of 2005, continues to actively serve the University and the public interest as a forum for research, education, and collaboration in the development and implementation of science-based policies and programs that support stewardship of healthy, productive, and resilient coastal ecosystems and communities. The UCI builds on the University's program in Marine and Environmental Biology and inter-departmental strengths in marine biology, environmental science, business, economics and real estate, public policy, and the arts and social sciences. The UCI maintains a principal focus on the interactions between humans and the coastal and ocean environment, and sustainable coastal development along New Jersey's coasts and watersheds. The UCI seeks to foster collaboration among citizens, watershed and community organizations, governmental agencies, business, the scientific community, and other parties interested in coastal and watershed management, conservation, and restoration.

Other Activities

During the reporting period, the initiative to calculate our campus' carbon footprint using the Clean-Air Cool Planet Campus Carbon Calculator continued. Once the footprint is established, goals and plans for reducing our carbon footprint will be developed. In May of 2010 we conducted a survey of student, faculty and staff commuters to determine the commuting contribution to our carbon footprint, and to generate ideas for reducing the number of single occupant vehicle trips to campus. One idea that is being pursued is to implement a vehicle sharing program on Campus. We have received a proposal from Zipcar, and are awaiting a proposal from Connect by Hertz. If the program economics is acceptable, we hope to select a provider and implement a program by the beginning of our fall 2010 semester.

Monmouth University will continue to host an organizer from the NJPIRG's Energy Service Corps during the 2010-2011 academic year. This program began in 2009. The organizer resides on campus full time, and encourages students to become involved in energy conservation related projects in and for the local community.