



Governor's Award for Environmental Excellence 2009

Winners

Cherokee Pharmaceuticals, LLC

Cherokee Pharmaceuticals, LLC determined that in 2007 energy expenses accounted for 12-14% of their operating budget, or approximately \$12 million in annual costs, at their facility in Northumberland County. This led to energy conservation becoming a central focus of their day-to-day operations. In March 2008, an energy conservation team was developed based on the successes the company had with their team-based Employee Involvement Program. Some of the objectives of the energy conservation team are: develop & implement an energy auditing program for the site, identify & implement supporting energy conservation activities, and develop a baseline energy consumption metric and track/plan future performance against baseline and improvement targets. The three main forms of communication/education utilized by the team are: the Cherokee Energy Conservation Team Intranet website that allows all employees to submit conservation suggestions; monthly face-to-face meetings that allow staff to present & highlight current issues or opportunities for the site; and "Cherokee Today," a weekly internal newsletter distributed electronically.

The Cherokee Energy Conservation Team set a goal of \$1 million in energy savings for 2008. Between January 1, 2008 and July 31, 2008, twelve energy projects were implemented and their actual annualized energy savings was \$2,670,919, including an estimated savings of \$229,000 from their quarterly energy team audits. The implementation cost of these twelve projects was approximately \$249,000. The electricity savings for this period was calculated to be 2,800,396 kilowatt-hours and natural gas savings were calculated to be 525,590 therms. From EPA's greenhouse gas equivalencies calculator, the energy saved accounts to 4,860 metric tons of carbon dioxide emissions.

ClearWater Conservancy

ClearWater Conservancy, created in 1980, is a land trust and natural resource conservation organization with over 800 contributing members. Their mission is to promote conservation and restoration of natural resources in central Pennsylvania through land conservation, water resource protection, and environmental outreach to the community. Through conservation easements, land acquisition, and partnerships with state agencies, local government, Penn State University, and other conservation organizations, ClearWater has permanently protected over 4,150 acres of land and water resources.

The goal of the annual Watershed Cleanup Day is to educate the public about the dangers of littering and illegal dumping by involving members of the local communities in the cleanup efforts. A volunteer committee selects the cleanup sites, organizes coordinators, solicits local contractors for their services including the use of heavy equipment, secures reduced disposal fees, and generates donations to help with costs. Cleanup involves

collecting litter along roads, highways, and public land as well as in illegal dump sites that often occur at sinkholes. The 2008 Watershed Cleanup Day, held on April 19th, yielded 467 tons of trash being collected. Associated costs, over \$18,000, were covered by grants, corporate sponsors, the State College area MS4 municipalities, the Centre County Solid Waste Authority, and several landowners of the cleanup sites. Since 1997, Watershed Cleanup Day volunteers have collected and properly disposed of 1,872 tons of trash.

Dickinson College

In September 2007, the president of Dickinson College signed the American College and University Presidents Climate Commitment which committed the college to developing a comprehensive plan to achieve climate neutrality. Dickinson is a small, private liberal arts college which currently purchases 50% of its energy from wind power and is determined that all new construction and major renovations will be designed to meet LEED silver standards. The purchase and installation of a Hobart Commercial-grade Food Pulper and its use in the dish room after March of 2008 ensures that Dickinson now composts 100% of pre and post food waste from the Dining Hall. The additional food waste ensures that the College Farm possesses enough organic material needed to maintain a mid-scale composting operation that meets the fertility needs of the soil. In addition, the farm obtained a used New Holland TN 65 tractor and a used manure spreader in addition to compost covers and thermometers for use in processing and monitoring the compost. The College Farm sells its produce to Dining Services at market price, eliminating the middle man and providing students with fresh and chemical-free food.

Elk Regional Health System

Elk Regional Health System consists of 6 affiliates including an acute care hospital, nursing home facility, and independent living facility, home health agency, and an employed physician group that serves the health care needs of the residents of Elk and Cameron counties. Using local architects, contractors and equipment designer and manufacturer, this biomass project not only reduced energy costs, but helped the economy of the area as well. Environmental benefits of this project include the reduction of fossil fuel dependency by as much as 90%, a reduction in the amount of biomass materials placed in landfills by approximately 5,200 tons per year and a clean air emissions energy source. A cost savings with the new energy system in the first year of operation was \$177,000. Upon completion of Phase II of the project, the estimated yearly savings will be \$250,000 – funds which be utilized in patient services.

Green Building Alliance

The Green Building Alliance (GBA), founded in 1993, is a Pittsburgh-based nonprofit organization that advances economic prosperity and human wellbeing in western Pennsylvania by driving market demand for green buildings and green building products across every aspect of the built environment. The Pittsburgh Climate Action Plan (Plan) presents the City of Pittsburgh and its residents, businesses, and higher education institutions with opportunities to reduce the impacts of local and global climate change, improve the local environment and economy, and enhance Pittsburgh's reputation as an environmentally progressive city. The goal of the Plan is to achieve a 20% reduction of the city's greenhouse gas emissions by 2023, using 2003 as the baseline level.

The Green Building Alliance leads an organizational partnership that creates the Pittsburgh Climate Initiative, which is charged with guiding on-the-ground completion of the Plan. Some goals include: creating more sustainable city operations with a slate of green code changes and performing a greenhouse gas inventory of county municipal operations.

The Plan is a working document and is intended to be revised and expanded as individual recommendations, goals, and measures are completed to continue achieving broader Pittsburgh greenhouse gas reduction targets.

Jason Drake, Maplewood High School, Penncrest School District

Jason Drake is a biology and environmental science teacher at Maplewood High School. On September 24, 2008, Mr. Drake and 375 students from all three of Penncrest School District's High Schools removed 9,000 tires from a troublesome tire pile in less than three hours. To finance the project, Mr. Drake was awarded a grant by the California-based Milken Family Foundation's Festival for Youth Program, which aims to give young people opportunities to build a better world. In addition to the grant, Mr. Drake partnered with a waste tire recycling company that not only transported and recycled the waste tires at a greatly reduced price, but also provided technical guidance and other assistance throughout the project. Over the past three years, Mr. Drake and his students removed over 23,000 illegally disposed tires at three dump sites.

In addition to his work at reducing illegally disposed of tires, Mr. Drake has engaged his students in many other environmentally related projects, including planting nearly 3,000 trees along Interstate 79 to form living snow fences, organizing environmental restoration projects involving erosion and sedimentation control measures along stream banks, and organizing environmental field trips.

Lake Erie Biofuels, LLC

Lake Erie Biofuels, LLC teamed with the Greater Erie Industrial Development Corporation in 2006 to develop Lake Erie Biofuels on a former brownfield. The impact of the development of this production facility has been seen in the local Erie economy, in the agricultural economy of the Commonwealth, and in significant reductions in emission of chemicals and greenhouse gases as a result of the use of the company's products. Biodiesel production and use reduces carbon dioxide emissions by 78 percent, from planting the feedstock beans to the pump, with every gallon of B100 that is used instead of petro diesel reduces Greenhouse Gas Emissions by 19.2 pounds. Commercial use of the first six months production amounted to a reduction of CO₂ of 276 pounds, the equivalent of taking 50,550 automobiles off the road.

The total cost of the project was \$54 million of private investment. This includes two 10,000 square foot buildings which house equipment, a tank farm with more than 4 million gallons of capacity, a laboratory complex and a blending, loading, and distribution complex. In addition, Lake Erie Biofuels constructed its own in-plant railcar and tanker truck load out capabilities, and purchased the largest fleet of rail tank cars in the Eastern United States.

Lancaster County Career & Technology Center

For the past 17 years, senior high school students enrolled in the Building and Construction Program at the Lancaster County Career & Technology Center (LCCTC)

have built a home as an applied learning project, doing 90% of the work. Beginning in October of 2006, sustainable, advanced building processes and products were introduced to the curriculum and construction of the first four “green” homes began. To date, one home has been completed.

Apprentice Green creates a technologically advanced workforce, helps to meet academic standards, and creates new markets and resources in a local economy, mainstreaming energy conservation practices relative to the home building industry.

The homes are engineered to meet the highest level in the National Association of Home Builder’s Model Green Home Building Guidelines. Some of the technologies used in the homes include: geothermal heating and cooling system, solar hot water heater, rainwater harvesting system, cellulous insulation, low flow faucets, and Energy Star appliances.

Lower Makefield Township

In 1994, Lower Makefield Township formed an Environmental Advisory Council (EAC) to involve community members with environmental-related professionals to help the community become more environmentally conscious. In April 2007, township supervisors pledged to adopt the Cool Cities Initiative and in August of that year contracted a detailed energy audit of all major township-owned facilities which included an alternative energy solar proposal. Lower Makefield Township was the first community in Bucks County to join the Smart Power Program, which committed the community to using 20% alternative energy by the year 2010. As a result of securing residential investment, the township was awarded a 1kWh solar system which will be installed this year. Although the cost to perform the energy audit was \$15,000, the projected dollar savings to the Township will be in excess of \$27,000 per year once implementation is complete with additional significant savings following installation of solar at the municipal complex.

The Maple Press Company

Founded in 1901, The Maple Press Company’s 230 employees manufacture hardcover and paperback books – printing, binding and shipping approximately 250,000 each week. In seeking additional ways to lower emissions, it was discovered that the Genesis® product line from Amerikal Products worked well and emitted fewer VOCs and helped pave the way to the development of THINKTech®. The innovative system reduces energy costs by 80% on the initial press, VOC reductions have dropped to 3%--a 90% reduction, and lacking the high petroleum content of typical web press printing, books are safer for the environment. Maple Press expects to annually save \$30,000-\$40,000 in electricity and natural gas costs.

Nalco Company

Nalco Company, located in Ellwood City, is a specialty chemical facility that manufactures a variety of products used for boiler treatment, cooling water treatment, mining, paper making and cosmetic applications. Nalco is active in its community through support and participation of local events and organizations. Three initiatives by Nalco provided documented and measurable positive environmental impacts. “Reduce Waste Plant-Wide By Team Focused Efforts” – team identified source reduction resulted in waste reduction of 3.74 million pounds. “Reduction of Electric Consumption Requirements” – this project is on track to reduce peak electricity usage by 375,000 kwh per year, which will reduce greenhouse gas emissions by 228.4 metric tons per year or

2% total facility greenhouse gas emission reduction. “Recovery of Obsolete, Off Specification and Expired Shelf Life Product” – team recommendations resulted in approximately \$71,000 of off specification or expired inventory, totaling approximately 149,600 pounds of waste was reduced.

Pennsylvania Institute for Children’s Environmental Health (PICEH)

The Pennsylvania Institute for Children’s Environmental Health (PICEH) was created through the Berks County Environmental Advisory Council (EAC) as an effort to promote public education of children’s environmental health issues. Building on partnerships that the EAC had developed, PICEH further established a network of partners including public schools, hospitals, doctor’s offices, government agencies, and not for profit organizations. The public outreach campaign has reached tens of thousands of parents in Berks County, who are now much more aware of environmental health issues for their children, as well as how to implement what they learn. Some of PICEH’s initiatives include: “The Stepping Stone,” a quarterly publication distributed throughout Berks County through the medical and business communities; Kutztown Air Monitoring Station, which began operating in October 2007 on the campus of Kutztown University to monitor the air quality of the surrounding area; PICEH Air, an interactive website that provides real-time air pollution monitoring data supplied by the Kutztown Air Monitoring System; Child’s World Lecture Series held at Kutztown University and open to the public; informational brochures, and others. PICEH is financially supported by state and local government agencies, corporations, and many private donations.

Recreational Equipment, Inc. (REI) Eastern Region Distribution Center

Founded in 1938, REI is a national outdoor retail co-op dedicated to inspiring, educating and outfitting its members and the community for a lifetime of outdoor adventure and stewardship. REI’s Bedford distribution center, which opened in November 2007, is one of the largest certified green buildings and properties in its class. The 525,000 square-foot state-of-the-art building on 43 acres supports nearly half of the co-op’s 107 stores, and approximately 50 percent of its direct-to-customer business east of the Mississippi. REI Bedford received Leadership in Energy and Environmental Design (LEED) Silver certification for New Construction from the U.S. Green Building Council in January 2008.

Operating green buildings is reflective of the co-op’s mission and overall stewardship goal to reduce its environmental footprint. Construction and building highlights include: donation of an existing house on the property to Habitat for Humanity; on-site concrete mixing plant and construction equipment powered by B20 bio-diesel to reduce construction carbon emissions and truck traffic from local roads; more than 360 windows and skylights to reduce energy use by more than 33 percent; natural wetland for local wildlife and storm water runoff management; motion sensing lighting; three miles of motion-sensing conveyor belts that reduce energy use and building noise; water reduction efforts such as native plant landscaping, dual-flush toilets, low-flow sinks and showers, and waterless urinals; comprehensive recycling program; and educational green building tours.

Sanofi Pasteur Inc.

During the summer of 2008, Sanofi Pasteur completed the construction, commissioning, and startup of expanded wastewater treatment and irrigation systems at its facility in Swiftwater, PA. The project increased the capacity of the existing on-site wastewater

treatment plant from 350,000 gallons per day (gpd) to 950,000 gpd, reuses at least 50,000 gpd of treated wastewater at the on-site central utilities plant, and utilizes seasonal land application methods as a non-surface water discharge alternative for up to 315,000 gpd of treated wastewater disposal during the months April through October.

Some of the environmental and economic benefits of the project include: watershed stewardship, wetlands protection, potable water savings by reuse of treated effluent for landscape irrigation and their central utilities plant, and provides the needed infrastructure for Sanofi Pasteur to expand its operations, creating jobs and support services that provide significant positive economic impacts to the local community and Pocono region.

A distinction of this project is the treatment process that consists of membrane bioreactors (MBRs). This technology uses a state of the art Symbio ® process control system that allows the water exiting the MBR process to be suitable for discharge and reuse without additional treatment while reducing total energy consumption. The use of this system represents one of the first applications of this technology in Pennsylvania for the treatment of wastewater at an industrial operation.

The project's total cost was \$42.1 million and the total dollar savings is estimated at \$162,000 per year through the reuse of gray water for landscape irrigation and utility water make-up.

Tobyhanna Army Depot

Tobyhanna Army Depot (TYAD) is considered the largest, most progressive electronics maintenance facility in the Department of Defense. Recycled office paper saved the equivalent of 1,411 pulp trees, 31,540 gallons of oil, 274 cubic yards of landfill space, 340,300 kilowatts of energy, and 581,000 gallons of water. Funds generated from the recycling program were used to purchase a compact fluorescent bulb (CFL) for every employee, including tenants and contractors, to support Energy Star Operation Change Out. TYAD employees pledged to change out 23,643 inefficient incandescent bulbs with CFLs, reducing greenhouse gas emissions by 9,669,987 lbs. Non traditional recycling included 11,384,000 gallons of wastewater at the depot sewage treatment plant by using recirculation pumps, 600 gallons of vegetable oil and 5,395 gallons of motor oil and recycled 1.9 million pounds of construction and demolition debris from facility renovation and new construction projects. To close the recycling loop, TYAD buys recycled-content and biobased items, thus stimulating demand for domestic renewable materials and reducing dependence on foreign oil.