

Ohio Pollution Prevention Update

Ohio organizations provide assistance to industry, commercial and governmental entities, and residents to help them reduce waste and the burden on our local landfills. The report below provides a summary of just some of the programs in place to reduce waste in Ohio.

Assistance to Manufacturers

Ohio Statewide Environmental Network

As a group, the Ohio NIST Manufacturing Extension Partnership (MEP) Centers, Ohio EPA, Ohio Department of Development (ODOD), University of Toledo and other local environmental agencies and organizations have joined to form the Ohio Statewide Environmental Network (OSEN). The group was established in 1996 to provide environmental assistance to small manufacturers that are unable to afford a consulting firm to assist them. Since that time, OSEN has been instrumental in obtaining grants to assist small and medium-sized manufacturers with pollution prevention, environmental compliance, energy efficiency, lean manufacturing, and ISO 14001 implementation.

Under the OSEN group, the University of Toledo and Ohio MEP Centers have been awarded the USEPA Pollution Prevention Incentives for States (PPIS) grant to conduct pollution prevention assistance and training for local manufacturers. The grant helps to off-set a portion of the cost to conduct the assessment to determine the waste reduction opportunities. Under this program, the Ohio MEP Centers' assessments yielded results such as:

- Potential reduction in air emissions of 13,000 lb/yr (30% of total emissions) and 2,300 lb/month reduction in hazardous waste (\$25,000 savings) for an Ohio metal coating facility;
- Cost savings of \$29,000/yr in solid and hazardous waste for a Cincinnati-based automotive parts supplier;
- Potential savings of \$59,000/yr for an Ohio-based shim manufacturer through recycling, waste reduction, and waste treatment;
- Potential savings of \$76,000/yr through usage of rail cars for raw materials shipment, recycling of materials, and hazardous waste reduction.

Opportunities for waste reduction are linked with cost savings to provide an incentive and justification for manufacturers to make operating and equipment changes.

Also under the PPIS grant, the University of Toledo has developed a suite of tools for lean manufacturing, energy efficiency, and pollution prevention that are free to interested parties and are available at <http://p2tools.utoledo.edu/>.

Ohio EPA

Each year the OEPA Office of Pollution Prevention (OPP) helps between 300 to 500 Ohio businesses reduce pollution and improve Ohio's environment. In addition, the Office provides pollution prevention technical assistance to nearly 1,000 companies, organizations, and/or individuals. These efforts include completing between 15 to 20 site visits each year to help Ohio companies implement pollution prevention programs and providing presentations and training events to help educate Ohio businesses and organizations about pollution prevention. Since 1993, OPP has completed over 300 site visits and helped nearly 13,000 companies, organizations and/or individuals complete pollution prevention activities.

Ohio EPA Pollution Prevention Supplemental Environmental Project Update

Ohio EPA has completed 111 pollution prevention (P2) Supplemental Environmental Projects (SEPs) in Ohio EPA enforcement settlements since 1991. SEPs are environmentally beneficial projects that a violator agrees to undertake when settling an enforcement action. P2 SEPs generally require a violator to reduce waste generation beyond what is required by law, and require a P2 assessment or project in exchange for a penalty reduction. P2 SEPs make Ohio's environmental enforcement more effective and achieve greater environmental gain.

Of the 111 P2 SEPs completed by Ohio EPA, 47 are from the hazardous waste program, 41 from air pollution, 12 from surface water and 11 from other environmental programs (e.g., drinking water, toxic release inventory, etc.). Some examples of P2 SEP activity include: a door and glass manufacturer agreed to complete a pollution prevention study to identify source reduction and recycling opportunities in lieu of paying \$15,000 towards the penalty for an air violation; a musical instruments manufacturer eliminated the use of trichloroethylene as a cleaning agent as part of Toxic Release Inventory settlement; and an electroplater agreed to install conductivity controls and complete other activities to reduce wastes from the plating line in lieu of paying a \$13,100 penalty as part of a hazardous waste settlement.

The Office of Pollution Prevention (OPP) works with Ohio EPA divisions and the Ohio Attorney General's Office (AGO) to incorporate P2 SEPs into current and upcoming settlement negotiations. OPP works with Agency enforcement staff to identify cases where P2 SEPs are appropriate, develop language for orders, provide technical information, and attend settlement meetings.

For more information regarding P2 SEPs, please contact the Ohio EPA Office of Pollution Prevention at (614) 644-3469, use the Office's web mail at p2mail@epa.state.oh.us or visit the Office's web site at www.epa.state.oh.us/opp.

P2 Assessments with DHWM

P2 assessments continue to be conducted by DHWM staff to help Ohio facilities identify and implement P2 practices and reduce waste generation. This DHWM service is a key component of the Division's P2 strategy.

DHWM staff, with assistance from OPP, has completed five P2 assessments in 2003. Four other P2 assessments are currently in progress for 2003. Conducting P2 assessments enables staff to work directly with a facility to identify specific waste minimization/P2 opportunities. Benefits from DHWM P2 assessment have included reduced waste generation and increased cost savings for participating facilities. Besides important environmental benefits for DHWM, staffs are obtaining new skills and increasing knowledge related to process-specific waste minimization/P2 activities. For more information, contact Dave Foulkes at 614-644-3118 or at dave.foulkes@epa.state.oh.us

Assistance to Communities and Businesses

Recycling is a very lucrative industry in Ohio with more than \$22 Billion in sales and 100,000 recycling-related jobs statewide since 2000. From its inception in 1998, the Ohio Materials Exchange program alone has diverted over 250,000 tons of waste from the landfills. In addition to the statewide Ohio Material Exchange Program, there are more than 11 county and community materials exchange programs throughout the state.

Columbus has established its Build-It-Again Center that sells new and used building materials with the proceeds going to the Greater Columbus Habitat for Humanity program. Items they accept for reuse includes windows, doors, sinks, tile, light fixtures, plumbing, paint, cabinets, and bathtubs.

A new non-profit venture developed by the Work Resource Center (WRC) called Building Value will open a construction reuse facility in Cincinnati in the fall 2003. Building Value is a non-profit component of WRC providing three main services: a retail center for reusable materials, light

deconstruction of buildings, and reconstruction of unusable materials to usable products. WRC in turn supports job-training opportunities and empowerment for individuals with disabilities and disadvantages. Building Values' retail center will be the hub of activity and support new materials donations. The retail center will be open to the general public, but the goal is to provide low-income housing developers, homeowners, tenants, and area artists with quality building materials at 50-90% below retail costs.

The Ohio Mercury Reduction Group works to reduce the use, release, and emission of mercury in Ohio, to evaluate relevant departmental mercury programs and regulations, collect and assess data, promote the use of mercury alternatives and the collection of retired mercury and products, and educate industry, government and the general public on ways to reduce the sources of mercury in Ohio. Its members include representatives from Ohio EPA, Ohio Department of Health, the Ohio Department of Education, the Ohio Public Utilities Commission, and Bowling Green State University. The primary goal of OMRG is "to protect the environment and public health in Ohio against mercury exposure and the adverse effect of mercury." OMRG [is continuing to provide outreach and technical assistance on mercury issues as well as assisting communities with mercury collection programs, specifically aimed at thermometers.](#) The group [will be working with U.S. EPA on a mercury spill response outreach effort to local health departments. Part of the effort will focus on mercury pollution prevention.](#)

Energy Smart Communities

The Ohio Governor's Energy Smart Community Challenge (GESCC) was developed to help Ohio communities reduce energy use in their homes, businesses, public services and facilities, and to become a model for other Ohio communities. The three key characteristics of Energy Smart communities are active partnership with local institutions (e.g. chambers of commerce, boards of education, corporations, colleges and universities, non-profits, and/or utility companies), community-wide commitment to energy efficiency and/or renewable energy in a variety of sectors and through a range of initiatives, and an ability to show results.

Ohio's first 10 Energy Smart Communities were selected in 2001. Since their formation, the Energy Smart Communities have been working towards the following results:

City of Bowling Green

- Offer web-based energy audit system for all customer classes including residential in partnership with other municipal electric utilities
- Install a 1.5 megawatt wind turbine
- Increase participation of Green Power program by 50 participants in 2002
- Sponsor industrial motor efficiency workshops for manufacturers with AMP-Ohio
- Host a "How to Build a High Performance School" seminar
- Seek a contractor to survey all city facilities and consider installation of cost effective conservation measures under provisions established in H.B. 300
- Implement remote monitoring and startup of customer owned emergency generator

Greater Cleveland

- Provide workshops targeting homebuilding industry on green housing terms, tools and opportunities.
- Build 20 town-home units offering high-energy-efficiency, superior IAQ.
- Conduct educational events geared toward architects on benefits of green building.
- Educate business leaders about integration of energy efficient processes and practices. Integrate pedestrian transportation alternatives within the community.

- Foster the use of alternative fuel vehicles.
- Finalize and implement a comprehensive set of sustainable building guidelines.
- Integrate solar energy technology in the 20 new town homes being constructed and in the Cleveland Environmental Center

Capital Region (Metropolitan Columbus)

- Sponsor energy efficiency workshops for residents and homeowners.
- Conduct energy assessments, upgrade facilities as necessary and pursue energy efficiency certification on institutional buildings.
- Incorporate energy efficiency and renewable energy into school curricula and general public education programs.
- Promote alternative fuel vehicles for fleet replacements and enlargements, Explore innovative transportation alternatives for residents of the region and continue promoting ridesharing program.
- Encourage aggregated renewable energy purchases.
- Develop, adopt and promote green building codes in local municipalities.
- Incorporate green building methods and alternative energy technologies into new and existing facilities

City of Cuyahoga Falls

- Conduct a series of workshops targeted to homebuilders industry and focused on green housing terms, tools and opportunities.
- Develop a demonstration energy efficient office center.
- Conduct educational events geared toward architects and city administrators on benefits of green building.
- Sponsor of a High Performance Buildings Seminar for high school teachers.
- Convene regular meetings of Business leaders to learn about integration of energy efficient processes and practices.
- Update outdated building codes currently endorsed by City of Cleveland and Cuyahoga County Planning Commission and integrate green building strategies.

Hamilton County

- Conduct seminars designed to provide a basis for sustainable design with emphasis on waste reduction & energy efficiency
- Develop a green pricing tariff to promote the demand for green electric generation resources
- Research into environmental benign fuel cells that can supply single-family homes with electricity Install of a combustion turbine-based cogeneration unit at the University of Cincinnati
- Conduct workshops to help industry reduce energy consumption, improve steam system, assess pump system, manage motor system, and incorporate innovative technologies
- Provide education to K-12 students in local schools in energy efficiency through workshops and hands-on education

Montgomery County

- Hold Energy Efficiency Neighborhood Advisory Councils and Policy Development Meetings. Issues to be discussed at these meeting will include: energy efficiency, utility infrastructure, deregulation and customer choice programs, load profiling and data analysis, and energy efficiency workshops.

- Promote energy efficiency and information sharing within Montgomery County residents in rural, suburban and urban settings.
- Identify resource speakers on local, state and national grants, tax incentives and/or other programs that will help Montgomery residents to reduce their energy costs.
- Generate interest and input into energy efficiency programs for government buildings/facilities serving residents, such as most schools

City of Oberlin

- Gather data on energy use within the city
- Conduct a public awareness campaign
- Establish teams to implement initiatives
- Distribute energy Conservation Kits to Homeowners
- Meet with local architects/engineers to discuss innovative approaches to building design
- Install solar panels for schools Create database of industrial waste users and materials
- Provide energy auditing for commercial/industrial
- Evaluate LED traffic lights/AFVs for City of Oberlin
- Evaluate distributed generation alternatives
- Develop green building codes
- Establish a green power rate
- Attract new business that is energy efficient/ renewable/ sustainable

Scioto County

- Conduct energy efficiency education for residents of the Metropolitan Housing Authority
- Work to finance, design and build the first high performance school in Ohio in conjunction with the Ohio School Facility Commission in Wheelersburg Local School
- Work with experts to design and build a near-zero energy house through Scioto County JVS
- Provide student education throughout the county with the Ohio Energy Project's Energy Smart Schools Program.
- Install a 1-kw solar photovoltaic array on additional school

City of Springfield

- Offer ongoing sustainable development seminars through the City and AIA
- Audit county buildings and complete energy efficiency retrofits for those interested
- Conduct residential education programs in local public housing
- Install a 1-kw demonstration solar PV array at a Springfield school TBA
- Collaborate with Ohio Energy Project's Energy Smart Schools Program
- Design, build and analyze a Near-Zero energy home through the Springfield JVS program for demonstration and replication
- Install solar powered distributed generation at traffic stops, crosswalks, etc.
- Consider using biofuels such as ethanol and biodeisel in city and county vehicles in collaboration with the Ohio Corngrowers Association

City of Westerville

- Improve traffic signals by upgrading to LED lighting and installing solar photovoltaics for real-time and backup power
- Provide renewable energy education to electric customers, media, and civic organizations

- Conduct distributed generation project to shave power peaks
- Install solar photovoltaic systems on Westerville City Schools
- Conduct energy audit and make efficiency upgrades to city-owned buildings
- Specify and purchase city fleet vehicles that are alternative fuel capable

Education Programs

P2 Training - Painting and Coating Pollution Prevention Workshops

Ohio EPA Office of Pollution Prevention and Division of Hazardous Waste Management (DHWM) provided two Painting and Coating P2 Workshops this past Spring. These day long training sessions were jointly developed with DHWM as part of their ongoing P2 Strategy implementation efforts. Although the training is primarily directed towards hazardous waste inspectors, a number of air pollution field staff and personnel from local air agencies attended. The training provided an overview of painting and coating processes and focused on specific P2 alternatives that can be used to reduce painting and coating wastes. Another objective was to inform participants of P2 resources that can be used to encourage companies to complete P2 activities for their painting and coating operations. A key aspect of the training was to provide participants with information that will help them identify P2 opportunities during the inspection process. For more information, contact Dave Foulkes at 614-644-3118 or at dave.foulkes@epa.state.oh.us

Energy Workshops

TechSolve has provided two energy workshops for manufacturers Spring 2003 and plans four additional workshops the fall and winter of 2003 based on Department of Energy programs such as Motor Master, Pump Systems, Steam Systems, and Process Heat. For more information about these workshops, please visit the web site http://www.techsolve.org/events_training/energy_wkshops.shtml.

OSEN Group Workshops

The OSEN group has sponsored a number of pollution prevention, lean manufacturing, and energy efficiency workshops to educate manufacturing and government representatives in techniques to reduce waste. The seminars included:

- Full-day class on EMS Auditing
- "New Energy Marketing Opportunities for Manufacturers"
- Lean manufacturing 101
- PBT Chemicals
- Green Engineering

For more information about these seminars and workshops, please visit <http://p2tools.utoledo.edu/WebReport2002.pdf>.

Children's Education

Education of our children to be more environmentally-conscious adults is another way solid waste districts help the community. In Warren County alone, there were 330 recycling lessons presented to 8,250 children provided by a teacher hired by the solid waste district.

Established in 1984, the Ohio Energy Project (OEP) is a non-profit, partnership organization of professional educators. OEP is an affiliate of the National Energy Education Development (NEED) Project. The NEED Project is a non-profit education association dedicated to developing and distributing comprehensive, hands-on energy education programs to schools nationwide.

OEP has been recognized as an Ohio's Best Practice in Education Award winner and one of the 12 Most Outstanding Environmental Education Programs. OEP provides unbiased, current, and

accurate energy education through workshops and materials, featuring innovative, fun, hands-on techniques. These learning programs help students succeed on the Ohio Proficiency Test and in interdisciplinary classrooms.

OEP provides several types of workshops and learning programs. OEP held its annual Energy Summit Workshop on December 3, 2002 at the Cincinnati Museum Center. In attendance were over 600 area students to learn about energy and energy efficiency. An Indian Hills School received a 2 KW solar school unit equipped with monitoring system on April 19, 2002 to teach the students about the benefits of solar energy. Nine of the elementary school teachers were also taught about solar energy during this project. Installation of another solar unit in the Forest Hills School District is planned. OEP can provide customized workshops that are centered around energy and energy efficiency. One of the more popular workshops they offer is the Energy Bike workshop. Energy Bike helps students “feel and see” energy forms and transformations.