

The New Hampshire Department of Environmental Services
Pollution Prevention Program

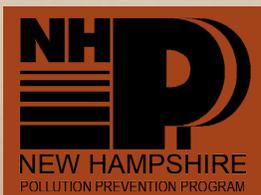
2009 *Biennial Report* **2010**

Pollution prevention, also called P2, refers to activities or strategies that reduce the volume or toxicity of raw materials used in a process, or change the way materials are used within a process, to reduce or eliminate the volume or toxicity of wastes. P2 also includes activities that increase efficiency in the use of raw materials, energy, water or other resources through the use of conservation techniques. These are building blocks for proactive organizations moving toward sustainability. The New Hampshire Pollution Prevention Program (NHPPP) has provided free, confidential, compliance and pollution prevention assistance to the state's businesses, municipalities, public agencies, organizations and residents since 1991. The program has worked with hundreds of New Hampshire businesses, helping them to save millions of dollars in everything from material purchases to water and energy savings and from hazardous and solid waste management to disposal costs. The NHPPP provides assistance in the form of site assessments, technical research, compliance assistance, workshops and conferences and the DES-UNH Pollution Prevention Summer Intern Program.

This report highlights the program's activities for calendar years 2009 and 2010. During the reporting period, NHPPP focused on specific sectors and projects including: auto body; hospitality; lean manufacturing; greening state government; ski resorts and; mercury reduction.

In the spirit of pollution prevention, this biennial report is offered electronically to minimize paper use and printing costs. If you would like a paper copy or additional information about any of the projects discussed, contact the P2 staff at nhppp@des.nh.gov. You can also go to the Department of Environmental Services' web page at www.des.nh.gov and, under the A to Z List, look for pollution prevention.

We look forward to hearing from you!



2010

MARKED THE 20TH ANNIVERSARY OF POLLUTION PREVENTION

In **1990**, the Resource Conservation and Recovery Act (RCRA) hazardous waste program was 10 years old, and states were in the midst of preparing capacity assurance plans that described what they planned to do with waste from manufacturing industries. Since New Hampshire had no hazardous waste disposal capacity, pollution prevention seemed like a great way to help address the state's goals in its plan.

This opportunity provided the genesis of the NHPPP in **1991**.

Starting from the ground up, the program faced many obstacles, not the least of which was figuring out how to get businesses to trust DES technical assistance staff that was sitting near the enforcement staff. The P2 staff worked hard to win trust through free and confidential visits, and useful reports that demonstrated how the client companies could save money.

To learn more and see a timeline of highlights of the past 20 years, go to www.des.nh.gov and search for pollution prevention under the A to Z List!

CELEBRATING
20 years
OF
POLLUTION PREVENTION

Sustainable Initiatives...



Sustainable Hospitality

During the biennium, the NHPPP continued to partner with the New Hampshire Lodging and Restaurant Association's Sustainable Lodging & Restaurant Program, referred to

as NHSLRP, certifying lodging facilities and restaurants as sustainable businesses. There are over 90 certified properties and the number continues to grow. The certification process involves completing a points-based application, and to achieve Environmental Champion status, the highest level, facilities participate in an onsite audit to verify their environmental initiatives. The application itself offers ideas for energy, water and waste reductions.

Through this partnership, NHPPP and NHSLRP created a brochure listing all of the certified facilities and made it available to tourists and residents at various rest areas throughout the state. Informational workshops, conferences and web based presentations have been offered to both members and non-members of the sustainability program. Many facilities have taken advantage of the information provided to implement energy and water reductions. (see case study)

A survey in 2009 of 57 reporting New Hampshire businesses participating in the program showed impressive reductions:

- Over 7,190,000 gallons of water saved through low-flow water fixtures and towel/linen reuse programs.
- \$586,000 saved in electricity reduction initiatives for both lighting and appliances.
- 643,000 pounds of solid waste recycled instead of thrown away.
- 213,000 fewer bottles thrown away through use of refillable amenity dispensers.

NHPPP will continue to work with the hospitality industry to further its sustainability efforts. Not only is sustainability good for the environment, it's also good for the bottom line and ultimately the state's economy. Tourism is New Hampshire's second highest revenue source and green tourism is continuing to grow. Tourists and travelers spend billions of dollars in New Hampshire and are looking to support businesses that help to preserve the beauty of this state. More information about the certification program can be found at www.nhslrp.org

Case Study: Pollution Prevention in the Hospitality Industry

InnSeason Resorts at Pollard Brook consists of 132 time share condominium-style suites with over 6,800 owners. The general manager, Joel Bourassa, attended the New England Eco-Hospitality Conference, hosted by the NHSLRP in partnership with the NHPPP. With the information he gathered, he began to research different options. Over 2,000 light bulbs were replaced at a cost of \$28,587 but with the smartSTART Program offered by its utility, there was no out-of-pocket expense, and the retrofit was repaid in nine months using the savings generated by the energy efficient lighting. The resort will save nearly 200,000kWh or \$31,870 annually. The resort also invested in an Ozone Laundry System. Hot water usage for the laundry was reduced by 434,715 gallons annually. This system has also resulted in the elimination of bleach, a reduction in the amount of detergent, less drying time and a noticeable savings in linen replacement costs. The switch to the ozone system saves \$17,256 annually. These two projects alone reduced the resort's annual greenhouse gas emissions by 195 tons.

Auto Body

The auto body industry uses large volumes and various types of hazardous materials, including acetone, toluene, xylene and methyl ethyl ketone, which are classified as hazardous air pollutants. These pollutants are known or suspected to cause cancer or other serious health effects such as reproductive or birth defects, or adverse environmental impacts. NHPPP along with DES's Small Business Technical Assistance Program and the NH Automobile Dealers Association have worked to educate auto body shops on such topics as: reducing chemical use; proper management of hazardous wastes; requirements for compliance with the new Environmental Protection Agency's National Emission Standards for Hazardous Air Pollutants rule. Ten workshops were held from November 2009 to October 2010 with a total of 385 attendees. Topics included code enforcement, spray booth techniques, environmental awareness, financial assistance guides, technical guides, and federal regulations. In 2009 and 2010, NHPPP and the small business program visited over 160 auto body shops and site visits will continue into 2011. During these site visits, staff fill out a survey based on answers given by shop owners to determine compliance, offer assistance in the management of hazardous and universal wastes and provide suggestions for waste reductions.



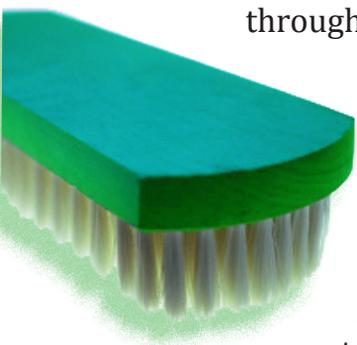
Lean Manufacturing

Starting in July, 2009, NHPPP partnered with the NH Manufacturing Extension Partnership in a "Lean, Green & Energy" assessment project. This was the first of its kind in which these two programs worked together to provide process review and improvement methodologies to companies within the state. Examples of some results for two companies participating in this project were a combined annual savings of 1,469,000 kwh, 68,000 gallons of water and \$219,000 per year.



Greening State Government

In 2008, the NH Department of Administrative Services (DAS) asked DES for assistance in adopting "green" technologies and practices. The P2 Program began work with DAS by offering assistance with research, contract language and training on environmentally preferable purchasing and "green" cleaning products. DAS contracted janitorial services to a vendor and the goal was to include "green" cleaners and non-chlorine or other environmentally preferable paper towel contract language through the request for proposal process. As of March 2009, DES bathrooms began implementing the use of unbleached paper towels, and the switch to rolled "brown" towels for all state offices followed shortly thereafter. The changes were met with some resistance, so NHPPP created a poster explaining the benefits of switching to unbleached paper towels. The program was very successful; not only did it reduce the amount of chlorine necessary to produce the towels, but by switching to rolls from folded towels, it also reduced the number of towels used. DAS also switched out some of its cleaning products to Green Seal Certified (www.greenseal.org) products and reduced on average 269 pounds of hazardous waste chemicals per year. DAS and NHPPP continue to search for greener cleaning solutions to reduce the amount of hazardous chemicals used to keep state buildings clean.





Green Slopes

NHPPP's Green Slopes Program, in partnership with SkiNH, continues to provide environmental outreach to New Hampshire's 30 downhill and cross country ski areas that serve 2.5 million skiers and snowboarders each season. Annual workshops are held to offer compliance assistance and provide information on energy and water conservation as well as both hazardous and non-hazardous waste reduction. The 2009 Green Slopes Workshop, held on July 23 at Ragged Mountain Resort in Danbury, focused on compliance assistance for storage tank installation and maintenance, implementing spill prevention plans, and creating an effective green team. Due to staff shortages, no workshops were held in 2010. As an alternative, NHPPP and SkiNH created a survey for ski areas to determine where more assistance was needed. The results from the survey assisted NHPPP in planning for the 2011 Green Slopes Conference.

Core Activities

Governor's Award for Pollution Prevention

Since its inception in 1994, the Governor's Award for Pollution Prevention has conferred over 33 first place Governor's Awards to 27 companies, departments and/or communities. These awards have been given for a myriad of projects. Some of them include: elimination of methyl ethyl ketone from all manufacturing processes; reduction in oil usage (many by over 50 percent); water reduction by millions of gallons; and multiple tons of Carbon Dioxide reductions due to the implementation of energy saving measures.

To be eligible for consideration, applicants must:

- Complete a pollution prevention project (or projects) that: reduce or eliminate wastes at their source; increase efficiency in the use of raw materials, energy, water, or another resource; or protect natural resources using conservation techniques.
- Be in good standing with state and federal environmental laws.
- Agree to allow a summary of their accomplishments to be published.



Highlights from the 2009 - 2010 Governor's Award Winners

2009 Southeastern Container Inc. - Hudson

Raw Materials	385,000 lbs of PET saved from producing thinner bottles.
Air Emissions Reduction	2,419,358 lbs CO ₂ ; 4,063 lbs SO ₂ ; and 1,498 lbs NO _x /year
Energy Saved	206,609 kWh/year
Water Reduced	153,000 gallons/year
Cost Savings/Year	\$71,017

Honorable Mention: BAE Systems -Nashua; Hitachi Cable - Manchester

2010 Fujifilm Dimatix Inc. - Lebanon

Eliminated	2,100 gallons/year of isopropyl alcohol
Air Emissions Reduction	792 tons of CO ₂ /year
Energy saved	1 million kWh/year
Recycled	10 tons of paper, 2 tons of plastic, 1 ton of aluminum and tin, 5 tons of glass and 10 tons of cardboard in one year
Cost Savings/Year	\$88,000

2010 Wire Belt Company of America - Londonderry

Air Emissions Reduction	1.5 million pounds CO ₂ /year
Energy saved	saved over 800,000 kWh/year
Waste Reduction	428,000 pounds/year
Cost Savings/Year	\$73,000

Honorable Mention: Osram Sylvania Inc. - Manchester; Southeastern Container Inc. - Hudson

UNH/DES P2 Intern Program



Since 1993, the NHPPP has partnered with the University of New Hampshire and US Environmental Protection Agency to provide an intern program to initiate pollution prevention strategies in New Hampshire businesses and municipalities. Since the program's inception, 123 interns have assisted 70 companies and



organizations to: become more efficient; reduce or eliminate waste; and realize significant monetary savings. These companies have reported combined cost savings of over \$5 million! The seven interns for 2009 and 2010 worked with EPA Region 1, DES and four manufacturing companies. The potential savings for the companies and municipalities these seven interns worked with was over \$863,000.

Publications and Outreach

Wastelines

In the past, NHPPP published a *Wastelines* newsletter to educate stakeholders on pollution prevention opportunities and regulatory issues and updates. In 2009, five editions of *Wastelines* were published. In 2008, *Wastelines* officially went paperless, both as a step to reduce our environmental footprint, and to reduce our costs. In 2010, one last edition was published, but due to staffing reductions, further editions of this publication have been put on hold.

Making Your Business Greener Workbook

In 2007, the NHPPP recognized the need for a guidance document to help businesses become more environmentally responsible. Partnering with DES's Environmental Leadership Initiative Program, the NHPPP developed the *Making Your Business Greener Workbook* that provides six separate checklists addressing areas for environmental improvement within any business and also provides resources for practical implementation of the outlined projects. The checklists can be applied to any business or organization, from a bank to a manufacturing plant to a university. This workbook has been very successful and was awarded the 2009 Most Valuable Pollution Prevention Award for a Publication by the National Pollution Prevention Roundtable. For more information on the Environmental Leadership Initiative Program, go to DES's website and search under the A to Z List.



P2 Guide – Planning for Profits

Originally produced in 1999 and updated in 2008, the P2 program still offers its popular *Planning for Profits*, a user-friendly tool to help businesses implement waste assessment and reduction projects at all types of facilities. This guide, distributed to hundreds of organizations, including universities, businesses and municipalities, is an excellent tool for learning how to increase profits and reduce impacts on the environment. It has been adopted by many different states and organizations as their basic pollution prevention teaching tool.

Compliance Assistance

In addition to its work with ski areas, and the auto body, hospitality and other business sectors, NHPPP offers free, confidential, non-enforcement, pollution prevention and compliance assistance to all New Hampshire businesses, institutions, municipalities and agencies. Without the risk of enforcement, these facilities can schedule a site visit, at which staff assist with compliance issues and offer suggestions to reduce waste, energy use and water consumption. After the visit, a report containing observations and suggestions is generated and sent to the company. During the biennium, 13 individual businesses contacted NHPPP for assistance with issues ranging from hazardous waste management to streamlining production processes. NHPPP also provided phone and email support in response to 253 requests for technical research, product information and regulatory questions.

P2 Training Activities

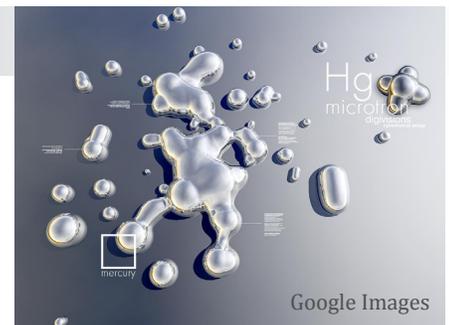
During 2009-2010, the NHPPP offered multiple training activities to businesses, municipal officials, college students, homeowners and even DES employees. These activities included basic P2 training classes, webinars, conference presentations and informational materials provided in a variety of venues. The purpose of the P2 training is to give participants a clear understanding of the process of pollution prevention. Once participants understand the process, they can apply it to a variety of business and personal situations ranging from manufacturing a computer to washing their clothes. Although pollution prevention strategies can involve the purchase or modification of equipment, it more often requires a behavioral change by many company employees, ranging from the CEO to the maintenance worker. Behavior changes, such as running equipment more efficiently or using “greener” raw materials, requires buy-in on the part of the manager and the production worker alike. By involving employees in the pollution prevention assessment and process change brainstorming exercise, acceptance of production changes is easier to achieve. The NHPPP’s training has been set up so that all levels of employees can understand and apply pollution prevention to their situation. All of the publications and training documents are available by contacting the NHPPP directly via nhppp@des.nh.gov or (603) 271-6460.

Mercury Reduction Activities...

Program Overview

The NHPPP continues to coordinate the DES mercury reduction efforts in accordance with the New Hampshire Mercury Reduction Strategy and the Northeast regional action plan, both adopted in 1998. New Hampshire met its initial goals (also shared by the other New England states and the Eastern Canadian provinces) of reducing mercury emissions by 50 percent by the end of 2003 and achieving a 75 percent reduction by 2010. New Hampshire continues to work on reducing or eliminating the remaining sources of mercury to the environment, in particular mercury in products and wastes.

The NHPPP coordinator co-chairs the New England Governors’/Eastern Canadian Premiers’ Regional Mercury Task Force. The task force was formed in 1998 to work on regional and international mercury reduction efforts. Progress to date includes developing model mercury-added products legislation to reduce mercury in consumer and commercial products, numerous outreach and education efforts, and significant reductions in mercury emissions from major source categories, such as municipal waste combustors and medical waste incinerators. Under the guidance of the task force, emissions



reductions in the region are estimated at 75 percent or greater. NHPPP staff also participate in the Interstate Mercury Reduction and Education Clearinghouse, which serves as a coordinating body for state legislative efforts.

The NHPPP continued to manage several programs to capture and recycle sources of mercury that previously were often discarded in solid waste, allowing the release of mercury into the environment.

Transfer Station Visits

In 2008, a law (RSA 149-M:58) banning the disposal of mercury-added products in solid waste landfills, transfer stations or incinerators went into effect. NHPPP provided education and outreach materials to the state's landfills, recycling centers and transfer stations (employees as well as customers) regarding the kinds of items that were regulated and the proper handling of those items. In 2010, a UNH P2 intern followed up with visits to 34 randomly selected municipal transfer stations to determine compliance with the proper disposal of mercury containing products and to provide posters and handouts explaining the law to help operators understand their legal responsibilities. Because consumer disposal represents a large potential source of mercury, the law also established four main requirements for municipal landfills and the table below shows the compliance rates for those requirements at the 34 transfer stations that were visited:

- 59 % - Post a notice or sign at the facility indicating the prohibition of disposal of mercury-added products.
- 32% - Provide facility customers written notification describing the prohibition of disposal of mercury-added products.
- 97% - Accept and recycle mercury-added products, or provide facility customers with information on where they may take mercury-added products.
- 100% - Implement an inspection procedure to detect the presence of illegally discarded mercury-added products.

Mercury-Containing Devices

Working with the Household Hazardous Waste program, the NHPPP promoted the collection of other mercury-containing devices, such as thermometers, mercury batteries and tilt switches, at municipal solid waste facilities. As of 2010, about 80 municipalities collected and recycled mercury-containing devices and thermostats.



Dentists



In 2007, DES adopted Env-Ws 905, a rule requiring all dental offices that use or discard mercury amalgam fillings to certify the installation of an amalgam separator to collect mercury before it is discharged into the sewer. As of early 2010, 99 percent of all New Hampshire dentists had self-certified compliance with the law. In order to verify this, a UNH P2 intern was tasked with visiting dental offices to check compliance rates for amalgam separators in the summer of 2010. Although most dentists are moving away from mercury fillings, they still need to manage the old fillings they remove. The intern visited 86 randomly selected dental practitioners and verified 100 percent compliance for those facilities. Some maintenance issues were observed and will be addressed with further outreach.

Upcoming Projects

In addition to the ongoing projects detailed above, the NHPPP is initiating two new projects:

Golf Courses

NHPPP will work with New Hampshire golf courses to help them reduce fertilizer, pesticide and water use.

Concrete and Redi-Mix Facilities

NHPPP plans to survey facilities within the state to determine their stormwater management practices. Untreated or uncontrolled stormwater runoff is the number one cause of impairment in our local waterways. NHPPP will provide these facilities with outreach and education about the importance of stormwater management.



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R-CO-12-1