



Northeast Assistance & Pollution Prevention News

FEATURE ARTICLE

Biofuels in the Northeast: *Promoting Demand, Increasing Supply*

The Northeast states have made a substantial commitment to the development and use of fuels derived from plants and plant-based waste products as a way to reduce greenhouse gases and other air pollutants and to promote energy independence. There are a lot of terms that are used for these types of fuels – biomass, bio-energy, bio-oil, bio-heat, biofuels, biodiesel, and ethanol.

According to the U.S. Department of Energy, biomass can be converted directly into liquid fuels—biofuels—for use in vehicles or as a fuel for heat. The two most common types of biofuels are ethanol and biodiesel. Ethanol—an alcohol—is currently made primarily from the starch in corn grain. It is most typically used as an additive for petroleum-based fuels to reduce toxic air emissions and increase octane. Today, roughly half of the gasoline sold in the United States includes 5–10 percent ethanol.

Ethanol is also available as an alternative fuel. E-85 is an alternative fuel blend containing 83 percent ethanol in the summer and 70 percent ethanol in the winter. Flexible fuel vehicles (FFVs) have corrosion-resistant fuel systems and other modest modifications to accommodate either E-85 or regular gasoline. The largest U.S. automobile manufacturers each offer several models as flexible fuel vehicles at little or no additional cost.

Biodiesel is made primarily from soybean oil. Its use is currently relatively small, but its benefits to air quality are dramatic. Biodiesel is typically available in a blended form known as B-5 (5 percent biodiesel with 95 percent diesel) and also B-20 (20 percent biodiesel and 80 percent petroleum diesel). B-20 is used chiefly by vehicle fleets, which can get credit for using alternative fuel vehicles without having to purchase new vehicles. B-20 is also available to individuals with diesel vehicles.

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THE NORTHEAST WASTE MANAGEMENT OFFICIALS' ASSOCIATION (NEWMOA)

NEWMOA is a non-profit, non-partisan interstate governmental association. The membership is composed of state environmental agency directors of the pollution prevention, hazardous and solid waste, and waste site cleanup programs in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

NEWMOA's mission is to develop and sustain an effective partnership of states to explore, develop, promote, and implement environmentally-sound solutions for the reduction and management of materials and waste, and for the remediation of contaminated sites, in order to achieve a clean and healthy environment. The group fulfills this mission by providing a variety of support services that:

- facilitate communication and cooperation among member states and between the states and the U.S. EPA; and
- support the efficient sharing of state and federal program resources to help avoid duplication of effort and to facilitate development of regional approaches to solving critical environmental problems.

NEWMOA's Assistance and P2 Program was established in 1989 to enhance the capabilities of the state and local government environmental officials in the Northeast to implement effective multimedia source reduction and assistance programs to promote sustainability and improvement in public health and the environment. The program is called the Northeast Assistance & Pollution Prevention Roundtable (NEA & P2 Roundtable). This program involves the following components:

- NEA & P2 Roundtable meetings and workgroups,
- regional information resource center and online databases,
- source reduction research and publications,
- training events, and
- regional policy coordination and development.

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Northeast Assistance & Pollution Prevention News

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In its purest form B-100, "neat biodiesel" can be blended to avoid problems at very cold temperatures. The fuel source comes from a variety of feedstock products, including waste vegetable oil, animal fats, and several natural oils, such as soybean, canola, and mustard.

This article describes some of the efforts underway by the Northeast states and EPA to promote the development and use of these various biofuel products. The reports from the state programs, as well as the results of a recent NEWMOA survey, demonstrate that there is a major push underway by state governments to use biofuels in government vehicles and facilities and to encourage companies to use biofuels and develop biofuel production capacity in the region. This Feature Article also includes two side bars that describe recent biofuels research underway as examples of some of the interesting and exciting efforts occurring at universities.

U.S. EPA

The federal government has initiated a number of policies and programs to promote the use and development of biofuel. The Energy Policy Act of 1992 (EPAct) required federal fleets to acquire a certain percentage (up to 75 percent by 2005) of alternative fuel vehicles (AFVs). The updated Energy Policy Act of 2005 (EPAct 2005) broadened the compliance options by allowing fleets to choose a petroleum reduction path and waived the requirement for acquiring AFVs. While EPAct changed its scope, to receive a waiver, fleets must prove to the Department of Energy that they will achieve petroleum reductions equivalent to their AFVs running on alternative fuels 100 percent of the time.

While EPAct no longer requires federal fleets to purchase vehicles that use alternative fuels (including biofuels), two tax credits created through EPAct 2005 provide incentives for using biodiesel: the Alternative Fuel Refueling Infrastructure Tax Credit (AFRITC) and the Small Agri-Biodiesel Producer Tax Credit (SABPTC). The AFRITC program offers a credit for up to 30 percent of the installation cost for fueling stations that offer a range of alternative fuels, including biodiesel blended to B-20 or higher. The SABPTC program gives a \$0.10 per-gallon credit, up to 15 million gallons, to producers of agri-biodiesel whose production capacity is less than 60 million gallons.

Building on these incentives, the infrastructure to bring biodiesel to consumers is emerging at a rapid pace. Currently, there are several suppliers of biodiesel in New England, approximately 35 blenders and distributors of biodiesel, and more than 50 biodiesel retail fueling sites.

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Maine

Beginning in 2003 Maine was among the first states in the nation to use biofuels for heating state offices and buildings – even the Governor’s mansion. Several well-known Maine businesses have adopted their use, and at least two Maine manufacturers are working to make biofuels more available to consumers. From college campuses and nonprofit agencies to major businesses and governments, there is a growing interest in developing biofuels, helping to move away from dependence on petroleum-based fuels.

Several Maine manufacturers are currently using waste vegetable oils collected from restaurants to produce biodiesel. Opportunities to produce and process oil crops usable for biodiesel are being explored in Unity, Maine. About 5,000 acres of canola crop, a rotation crop for potatoes, is grown in the northern Aroostook County.

State government has led by example and by establishing incentives. To lead by example, use of biodiesel in state government buildings has grown since 2003 when the program began. In 2006, use reached 23 percent of the total heating fuel consumption (approximately 250,000 gallons at 5 percent blend). Local governments are also using biodiesel for both heating and transportation.

Government incentives are helping to promote biofuels in Maine. Beginning in 2004, the Maine State Energy Program and the U.S. Department of Energy provided a grant to build market demand for biodiesel among potential large diesel users in Maine. State government has enacted a production tax credit for producers of biofuels, and an excise tax reduction for consumers of motor fuels containing at least two percent biodiesel. Maine’s legislature put forward a proposed bill (LD 1159) in 2007 to encourage increased use of biofuels in Maine. The bill was signed by the Governor in June, and will

establish a pilot program for dispensation of biofuel that is at least 85 percent ethanol.

Well-known Maine businesses have included biofuel in their energy use mix. Oakhurst Dairy, L.L. Bean, Poland Spring Bottling, Hannaford, Safe Handling, and Lamey Wellehan are among those involved.

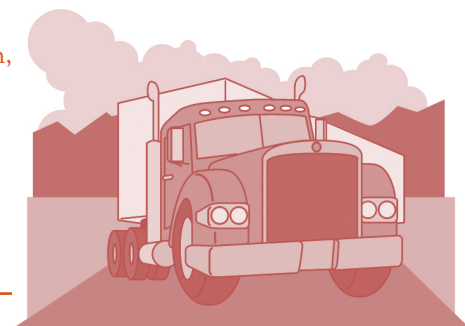
In November 2006, Governor John Baldacci joined Oakhurst Dairy to herald the company’s move to cleaner-burning biodiesel for 90 percent of their fleet (130 delivery trucks). Striving for carbon reductions, and as part of their early commitment to the Governor’s Carbon Challenge (www.maine.gov/dep/oc/carbon.htm) initiated in 2004, Oakhurst reportedly became one of the largest private biodiesel fleets in New England.

Famous Maine outdoor products company, L.L. Bean, has long been committed to environmental stewardship. In 2003, L.L. Bean converted its heavy truck fleet to biodiesel fuel. The fleet of buses supporting their Outdoor Discovery Schools is fueled with biodiesel. The company’s goal is to increase alternative fuel use in their entire company fleet. They also use biofuel propane/gasoline in their company pickup trucks.

In June 2007, Poland Spring Bottling Company announced their move to using biofuels. A member of the Governor’s Carbon Challenge and Maine’s STEP-UP program (www.maine.gov/dep/oc/stepup/index.htm), Poland Spring began using biofuels in 52 tanker trucks and 12 contracted trucks. This fuel was provided by local Maine-based energy suppliers, C.N. Brown and Lampron Energy. The Bottling Company is also expected to support the general availability of biofuel to nearby communities. Poland Spring plans to move towards the use of B-20 in the summer and B-5 in the winter, and further reduce the tanker fleet’s carbon emissions. Other local companies are transitioning to biodiesel with their help, including Dyer Straights Transportation (12 tractors), Hartt Transportation (25 tractors), and Safe Handling (75 tractors).

Safe Handling of Auburn, Maine is a manufacturer and distributor of raw materials primarily for customers in the pulp

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Are Biofuels a Better Alternative for Combined Heat & Power Systems?

The Center for Advanced Energy Systems (CAES) operates the Pollution Prevention Technical Assistance Program for New Jersey. The Center is part of Rutgers University's Mechanical and Aerospace Engineering Department and is directed by Dr. Michael Muller, who is on the faculty at the university. Besides the program, the Center hosts the state technical assistance program for Combined Heat and Power (CHP) systems. Under this program, the Center conducts feasibility studies. This summer the team studied the feasibility of using cashew nut shell liquid (CNSL) as a fuel for a CHP system. The study investigated the benefits of using this biofuel in a boiler that currently uses natural gas.

The energy content of the CNSL is approximately 142,000 BTU/gallon, and typically it can be used in boilers that burn natural gas without significant alterations to the equipment. The challenge with CNSL is that it contains about 0.21 percent nitrogen by weight, which is 10 times more than fuel oil # 2 or 6. Hence, using this material as fuel means there would be a higher level of NO_x emissions. In order to mitigate the high NO_x level, a specialized technique needs to be implemented that targets the formation of NO_x in the combustion process, making it possible to meet emission standards. These control techniques can take place in the three parts of the process: pre-combustion, combustion, and post combustion. Any combination of these three can lower NO_x emissions greatly.

Pre-Combustion Mitigation

Methods used in the pre-combustion stage to reduce NO_x emissions involve targeting fuel-based NO_x. The classic method of removing nitrogen from liquid fuels involves removal of nitrogen by catalytic conversion with hydrogen at high pressures and temperatures. Another way to remove nitrogen from the fuel is to use zeolites. Zeolites are crystalline, porous silicates with cage-like pores. If aromatic nitrogen compounds get into the zeolite pores, they form complexes with the copper ions. These bind more strongly to nitrogen containing aromatic compounds than to others, such as benzene and organosulfur compounds. With the help of the copper zeolite, the nitrogen content of commercially available diesel can be lowered from

83 ppm to under 0.1 ppm (0.1 millionth of a gram of diesel). The adsorption occurs at room temperature and atmospheric pressure, and the adsorbent can be completely regenerated – good conditions for large scale application.

Combustion Mitigation

The easiest way to reduce NO_x formation is to treat the problem during the combustion process. This involves recycling the exhaust, which is cooler than the burner, back to the burner. By doing this, the temperature of the flame is reduced and less NO_x is formed. There are two types of recirculation: external flue gas recirculation and induced flue gas recirculation. The external recirculation uses an external fan to move the exhaust gases back to the burner. Induced recirculation involves ducting a portion of the exhaust gases back to the burner. A combination of burner modifications with the recirculation of flue gas is highly recommended. Another technique commonly used to reduce NO_x generation is water or steam injection into the flame. This method is commonly used with gas turbines.

Post-Combustion Mitigation

The post combustion treatments that can be used to reduce NO_x are Selective Non-catalytic Reduction and Selective Catalytic Reduction. Both methods use ammonia or urea in the boiler exhaust so that it breaks down the NO_x compounds into water and elemental nitrogen. Though the NO_x reductions are appealing, the costs to use these two methods are high.

Overall, using CNSL as fuel is a good option as long as NO_x emission issues are properly addressed. Typically, however, NO_x mitigation equipment adds costs to the project. Although this biofuel is renewable, it does not necessarily mean it is better for CHP systems. Emissions control is a critical aspect of using this biofuel, and proper engineering of the system can make it a reasonable alternative.

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and paper industry and has joined the Governor's Carbon Challenge. Along with their company growth, they intend to evaluate construction of a forest products bio-refinery.

Hannaford Brothers Company, the Maine-based grocer with 158 stores in the northeast region has been using B-20 biodiesel since May 2005. With a fleet of 100 tractors and 380 trailers, their biofuels program is part of their company-wide effort to reduce fuel use and associated carbon emissions. Hannaford's Camden store was heated using biodiesel last winter.

The diverse list of biofuel users includes Maine small businesses, college campuses, school districts and municipalities, and nonprofit organizations

The diverse list of biofuel users also includes Maine small businesses, college campuses, school districts and municipalities, and nonprofit organizations and are too numerous to list individually. Examples include Colby, Bates, and Bowdoin colleges; the University of Southern Maine; Maine Audubon; Cape Elizabeth; Falmouth; and the Chewonki Foundation. An early proponent of biodiesel, the Chewonki Foundation makes their own biodiesel, for both transportation and supplemental heating fuel consumption, and for instructional purposes to help build market demand.

Manufacturing of biofuel in Maine is developing (in addition to growing retail availability). Green Bean Biofuel of Vassalboro, Maine produces biodiesel from restaurant feedstock in Maine and New Hampshire. Production is currently 6-8,000 gallons per week with plans to increase next year to 900,000 gallons annually. Customers include local business transportation fleets and heating fuel for school campuses.

Maine-Biofuel, a group of Maine entrepreneurs, is planning biodiesel production using southern Maine restaurant feedstock with capacity to generate a million gallons per year at their Portland manufacturing facility. They anticipate production beginning in August 2007.

They have also successfully manufactured B-20 biodiesel at Sugarloaf USA, where onsite production of B-20 was piloted and used in shuttle buses at the popular recreation area. Plans exist for expanded future use at Sugarloaf and possibly other facilities.

Earlier this year and on a larger scale, Dirigo Biofuels revealed plans to construct a 30-million gallon per year plant in Bucksport, Maine with hopes to have production in place by the end of the year. After experience in the Midwest, the company found the next logical place was the home heating market in the Northeast.

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Massachusetts

Massachusetts environmental agencies have focused their efforts on supporting cellulosic ethanol research and development, biodiesel, and advanced biofuels (such as bio-oil and renewable diesel). In 2006, prompted by the Massachusetts Leading by Example Program (formerly known as the State Sustainability Program), the Executive Office of Administration and Finance released a directive to state agencies (entitled *Establishment of Minimum Requirements for Bio-Fuel Usage in State Vehicles and Buildings by Executive Agencies* or A&F Bulletin #13) requiring the use of biodiesel fuel in state fleets. This directive requires that effective July 1, 2007 all state agencies must use a minimum of five percent biodiesel in both on-road and off-road diesel engines. By July 1, 2009, agencies shall use a minimum of 15 percent biodiesel.

Additional activities include:

- Mandated use of biofuels by state agencies, colleges, and universities (www.mass.gov/doer/cleancit/bio-13.htm);
- Trained state agency staff and implemented the A&F Bulletin 13;
- Initiated tracking of biofuel beginning July 1, 2007 with a first quarter report due in October 2007;
- Implemented a pilot bio-heat program in the winter of 2007 with excellent results (report will be available soon);
- Developed and began to implement Executive Order 484, entitled "Clean Energy and Efficient Buildings"

that calls for agencies to transition to bio-heat products (i.e., biodiesel/heating oil blends) with blends of at least 10 percent minimum of B-3 (3 percent biodiesel, 97 percent conventional heating oil) for all heating applications that use number two heating oil in the winter of 2007-2008; in 2012 state agencies must be using blends of at least 10 percent (www.mass.gov/Agov3/docs/Executive%20Orders/Leading%20by%20Example%20EO.pdf);

- Met with over a dozen bio-refinery companies that plan to use a variety of feedstocks (i.e., algae, waste vegetable oil, grease trap wastes, virgin oils) to produce biodiesel or advanced biofuels and co-products (such as electricity); the Massachusetts Executive Office of Energy and Environmental Affairs (MA EOEEA) has provided business, technical, and permitting assistance to these firms;
- Researched incentive programs, wholesale fuel distribution infrastructure needs, and climate change impacts of various biofuels to inform the legislative process.

A company in Massachusetts, Berkshire Biodiesel, has obtained sufficient funding to begin final design and has worked with a MassDEP regional office to apply for permits for a 50 million gallon per year biodiesel facility in Pittsfield, Massachusetts. The MA EOEEA staff has also noted investments by ethanol companies in cellulosic ethanol research and development (called Sunethanol) and biodiesel producers (e.g., North American Biofuels Company).

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New Hampshire

Interest in biofuels has been growing in New Hampshire, primarily focusing on the use of biodiesel, although limited use of ethanol is required to replace methyl tertiary butyl ether (MTBE) as a fuel additive to reduce air emissions. Fuel providers in the state are currently blending 10 percent ethanol into gasoline supplies, but to date, there has not been a retail location interested in providing E-85. Currently, all commercially available ethanol is from corn-based mid-west stock and is significantly more expensive. As cellulosic ethanol

becomes commercially available and produced locally, there will likely be more interest in developing an expanded infrastructure for ethanol in the state.

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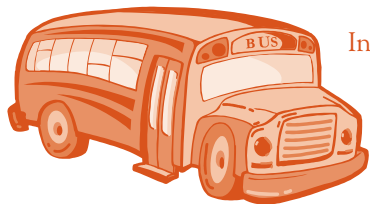
New Hampshire's use of biodiesel, usually at the 20 percent blend (B-20), is increasing.

New Hampshire's use of biodiesel, usually at the 20 percent blend (B-20), is increasing. The annual 2006 Clean Cities survey reported 764 vehicles in NH using biodiesel, up from 434 in 2005, offsetting an estimated 12,820 gallons of petroleum diesel. This estimate represents only those vehicles that report to the NH Department of Environmental Services (DES) under the Granite State Clean Cities Coalition (GSCCC); many more in the state use biodiesel without reporting their use. Biodiesel has been available at as many as 11 retail service stations, although currently only 9 are carrying biodiesel (www.nbb.org and click on "buying biodiesel").

The City of Keene has led the way, switching the entire city fleet to biodiesel in 2002. Keene's fleet made the switch with assistance from a grant from the Governor's Office of Energy and the GSCCC. The City recently faced budget cuts, but insisted that it would continue to use biodiesel, even though it is slightly more expensive than ultra low sulfur diesel.

Keene State College uses B-20 in their campus diesel vehicles and B-100 in their lawn maintenance equipment.

Numerous companies in New Hampshire now use biodiesel blends, including Cranmore Mountain Resort in North Conway, COAST Transit in the Seacoast area, Northland Forest Products in Kingston, Rymes Propane and Oils in Antrim, Evans Group in Enfield, and J.W. Ohler Excavation in New London. Many of these users have noted a marked reduction in headaches during equipment use.



In the summer of 2006, the State of New Hampshire opened its first B-20 fueling station in Durham, serving the University of New Hampshire (UNH), and the

NH Department of Transportation (DOT), and more recently serving the Oyster River Cooperative School District (ORCSD). UNH received eight new buses in 2006 and began running B-20 in four, while four ran on diesel. In February, after assessing the performance of both groups of buses, UNH switched its entire diesel bus fleet to biodiesel, with the exception of 3 very old buses that will be retired as soon as possible, for a total of 27 biodiesel buses. Both UNH and NH DOT plan to continue to use B-20 at their own cost, \$.17 more per gallon on average. ORCSD began using B-20 in its bus fleet in March 2007 through a grant from the GSCCC to cover incremental cost differences, and they plan to continue using biodiesel through at least the 2007-2008 school year.

In July 2007, the DES Pollution Prevention Program partnered with the GSCCC on a workshop for the ski industry on climate change and steps that could be taken to abate climate change, including idling reduction and the use of biodiesel. Dr. Melinda Treadwell, Keene State College and Nora Traviss reported their findings on emissions at ski areas, and Ben Wilcox, General Manager at Cranmore Mountain Resort, reported on the successful use of biodiesel in their grooming equipment over the past three years. As a result of the workshop, one NH ski area has already requested bids for biodiesel for next winter, and several others appear to be working towards using biodiesel as well. Several areas have also decided to adopt idling reduction policies.

A number of NH towns have expressed interest in using biodiesel, and it is anticipated that commercial fleets will also transition to biodiesel as in-state experience continues to demonstrate that biodiesel blends are viable in this climate. GSCCC and the biodiesel industry continue to stress the importance of using only biodiesel certified to the American Society of Testing Methods D6751 standard and fuel providers that are familiar with proper cold weather blending techniques.

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Over the summer of 2007, a New Hampshire legislative study commission has been studying impediments to increased use of biodiesel in New Hampshire, focusing on state and regional production and distribution of the fuel. A full report will be issued from that commission by November 1, 2007.

For more information contact: Sara Johnson, NH DES (603) 271-6460, sjohnson@des.state.nh.us.

New Jersey

In June 2006 New Jersey created the "Biofuels Action Group" comprised of representatives from different State Departments and Agencies. The goal of the Action Group is to make a cooperative effort to create the most favorable environment for biofuels projects to thrive in New Jersey. This group consists of representatives from the Department of Environmental Protection, Department of Agriculture, Board of Public Utilities, New Jersey Commerce, Economic Growth and Tourism Commission, Rutgers University, and the Governor's Office. Together, the Biofuels Action Group has identified numerous viable alternative energy proposals from companies interested in locating in New Jersey. This includes ethanol production from various feedstocks and technologies, biodiesel from various feedstocks and technologies, biogas, and P-fuels. Biofuels Action Group meetings are held bi-monthly to discuss ways NJ can collectively provide information and incentives to make these proposed projects a reality.

The major issues discussed by the Biofuels Action Group have been:

- identifying the best available sites for locating biofuels facilities;

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The Future of Ethanol in the Northeast: An Interview with Neil Murphy, President, State University of New York, College of Environmental Science & Forestry

The State University of New York, College of Environmental Science and Forestry has undertaken a major research initiative to develop methods of generating ethanol from locally-available wood. NEWMOA recently interviewed Neil Murphy, President of the College to find out more about this promising endeavor.

NEWMOA: Please describe the ethanol research underway at the College of Environmental Science and Forestry.

Murphy: Our researchers have developed a process to generate ethanol from ligno-cellulosic plants, basically from northern hardwoods; the technology extracts hemi-cellulose from the wood and converts it to ethanol. We are currently working with industry groups to commercialize this process. We have received a \$10.3 million grant from New York State that will allow us to build a pilot plant in partnership with Catalyst Renewables Corporation to produce 130,000 gallons/year of ethanol.

NEWMOA: What's the advantage of this way of producing ethanol?

Murphy: The ethanol produced from corn and from ligno-cellulosic plants is the same. The difference between the ethanol produced from corn and from cellulosic sources is the energy investment needed to grow the plants. Most researchers agree that one unit of ethanol produced from corn yields about 1.37 units of energy. For cellulosic ethanol the equation is – for every unit of energy used to produce the fuel, 12-14 units of energy are created.

The greenhouse gas emissions associated with corn to ethanol versus cellulose to ethanol is much more favorable for cellulose. Compared to gasoline, corn-based ethanol generates a 29 percent reduction in greenhouse gases. Cellulosic ethanol is expected to produce about a 90 percent reduction.

The difference in the energy efficiency and greenhouse gas potential of these two sources of ethanol is attributed to what it takes to grow corn – modern production of corn requires heavy use of fertilizers, pesticides, and herbicides. Anhydrous ammonia, which is the basis of most fertilizers, takes a tremendous amount of energy to produce. Corn also requires the

farmer to till and prepare the fields, which are energy intensive processes. Growing trees in modern forests does not require fertilizers, herbicides, tilling, and pesticides, and this sharply reduces the energy requirement and greenhouse gas production. Trees also provide an effective sink for CO₂.

NEWMOA: What tree species are you using in your research?

Murphy: Any of the common northern hardwood species can be used – oak, maple, cherry, beech. Hardwoods have a higher concentration of hemi-cellulose, a basic ingredient needed to produce ethanol. Trees have five carbon sugars (as opposed to six carbon sugars in food), and when we ferment these sugars, we can produce ethanol. The fermentation process requires different bacteria and conditions from the process for producing ethanol from corn.

We have also developed a process to grow shrub willow plants as a crop to produce ethanol. This can be another source of regionally-available biomass for producing ethanol in the Northeast. In New York State, we have two million acres of underutilized agricultural land, and the shrub willow could be grown on that land to produce ethanol for the region.

The concept is not to cut down the forest to produce ethanol. We can use the trees from thinning of the forests using modern forestry management methods. Invasive species can also be removed and used to produce ethanol. For example, kudzu in the South is an invasive plant that creates significant environmental problems – when this is removed it could be used as a regionally-available source of renewable ethanol. You can also use diseased trees that are removed to produce ethanol.

NEWMOA: So what's the future for ethanol derived from cellulose?

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The Future of Ethanol in the Northeast: An Interview with Neil Murphy, President, State University of New York, College of Environmental Science & Forestry

Murphy: Currently, the U.S. uses 130 billion gallons/year of fuel for transportation. Roughly, 20 percent of all corn grown in the U.S. is used to produce 6.5 billion gallons/year of ethanol. So what percentage of transportation fuels can you produce from corn in the long term? The use of corn for ethanol production has already impacted food prices. We are limited by the fuels we can produce from corn.

The big picture is that there are no real limitations on the potential for ethanol produced from cellulosic sources. The petroleum that we use today was originally produced by the forests millions of years ago. We have more carbon in our forests than any other source – the amount dwarfs what is currently in natural gas and oil reserves.

Corn-derived ethanol is a good place to start. In the end, however, we need to use regionally- available biomass feedstocks to produce renewable biomass fuels for transportation and heating. This means that in the Southeast where there is a lot of loblolly pine and indigenous grasses, they could use these plants to produce ethanol. In the west, they could use grasses

indigenous to the prairies. In the northwest, they could use poplar and other indigenous trees. In the northeast, we have forests with lots of hardwoods. The point is to focus on regionally-available sources of biomass to produce ethanol; use the biomass closest to demand for the fuel. You cannot pipe ethanol; you must ship it via rail or truck. In the long run, it does not make sense to produce ethanol from corn in Iowa and ship it to New York or Maine.

NEWMOA: What's the timeframe for cellulosic ethanol to have a significant impact?

Murphy: The overarching federal objective is to have 25 percent of the energy used in the U.S. to be renewable by 2025. This is a very feasible goal if we put enough resources into it. Can we in the Northeast have 25 percent of the transportation fuels be provided by ligno- cellulosic ethanol by 2025? Yes, definitely. The future is not all just about ethanol. Biodiesel will play an important role. Butanol and hydrogen will also be extremely important.

For more information visit: www.esf.edu.

New Jersey *Continued from page 7*

- examining the NJ Department of Environmental Protection's permitting process with an eye toward creating the most streamlined path for biofuel companies to obtain the necessary permits;
- clarifying the possibility of "co-location," in which multiple biofuels producers would locate on the same or nearby properties and benefit from each other's by-products;
- identifying sources to help biofuels companies obtain the necessary funding for their projects;
- identifying incentives the State can offer to spur biofuels production;
- examining the role that can be played by the State Economic Development Authority and the various

County Improvement Authorities in helping companies secure financing for biofuels projects; and

- delineating the role of the biofuels industry in the Board of Public Utility's overall State Master Energy Plan.

In the fall of 2006, the Board of Public Utilities retained the New Jersey Agricultural Experiment Station to evaluate the bio-energy potential in New Jersey. In February of 2007, the Agricultural Experiment Station issued to the Board of Public Utilities their first draft report titled "The Assessment of Biomass Energy Potential in New Jersey." This report contained four major deliverables that will result in the establishment of an outstanding capacity to further develop the bio-energy potential for New Jersey:

- Assessment of the characteristics and quantity of New Jersey's biomass resources

- Assessment of technologies that are capable of producing bio-energy in the form of electric power, transportation fuels, and or thermal energy from New Jersey's biomass resources
- Development of the first statewide mapping of waste/ biomass resources
- Development of policy recommendations for moving New Jersey into the forefront of bio-energy innovation

In May 2007, the company, Fuel:Bio, opened the Northeast's largest biodiesel production plant and New Jersey's first biofuel plant in Elizabeth, Union County on the site of a defunct chemical plant. The Fuel:Bio plant makes their biodiesel from soybean oil and has a capacity of producing 60 million gallons per year. This plant is the first in what will hopefully become a successful biofuel industry in New Jersey.

For more information contact: Brian Quinn, NJ DEP (609) 292-3600.

New York

New York Executive Order 142 was signed November 21, 2005 and directs State Agencies to diversify State Agency and Public Authority Transportation Fuels and to procure increasing percentages of alternative-fueled vehicles, including hybrid-electric vehicles, as part of their annual vehicle acquisition plans. By 2005, at least 50 percent of new light duty vehicles acquired by each agency should be alternative-fuel vehicles, and by 2010 all of the new light-duty vehicles shall be alternative-fuel vehicles, with the exception of specialty, police, or emergency vehicles. State agencies and other affected entities that operate medium and heavy-duty vehicles must implement strategies to reduce petroleum consumption and emissions by using alternative fuels and improving vehicle fleet fuel efficiency.

New York State currently has four E-85 ethanol fueling stations and additional E-85 fueling stations are planned for future installation. Currently, the vast majority of the gasoline-powered vehicles in the New York State fleet do not utilize central fueling stations, but instead rely upon private sector gasoline stations. However, all of the gasoline sold in the New York City metropolitan non-attainment area is already 10 percent ethanol, and

a significant component of the State's light-duty fleet is already using blended ethanol as fuel.

The Department of Environmental Conservation has been involved with promoting the use of biofuels for the last few years. In particular, the Agency has been using B-20 biodiesel fuel in some of the Agency's heavy-duty trucks and purchasing flex fuel (E-85) vehicles. For the last few years, the Department has been dispensing B-20 biodiesel vehicle fuel at three DEC locations for use by the heavy-duty fleet vehicles/equipment in the Syracuse region. These three locations combined use approximately 20,000 gallons of B-20 biodiesel fuel annually. For the most part, the use of this fuel has worked well at these locations. Early on there were a few problems with the fuel jelling in the winter, but this was due mostly to an improper winter blend. Through coordination between site managers and the vendor, these issues were resolved. Because of the overall success with the use of biodiesel vehicle fuel at these locations, use of B-20 bio-diesel at other DEC locations will be implemented in the future.

The Department has focused on purchasing flex fuel E-85 vehicles for the last two years. From fiscal year 2005 to 2007, the Department purchased 89 of these vehicles. This, coupled with previous purchases, brought the total number of flex fuel vehicles in the fleet to 109 with more planned in the future.

The New York State Energy and Research Development Authority (NYSERDA) and the New York City Housing Authority are currently conducting a "Bio-Based Heating Oil Project." Although many transportation applications can use biodiesel at concentrations of up to B-20, the fuel is generally used at B-5 concentrations for heating and burner applications. Preliminary findings from the project have shown that B-5 can be used in processes and space heating equipment and has resulted in more efficient furnace operations and reduced emissions.

NYSERDA has been instructed to develop a plan pursuant to which state agencies and public authorities shall purchase, allocate, distribute, and utilize bio-diesel heating oil for use in state agency and public authority buildings that currently utilize oil. The percentage of diesel shall be a blended equivalent that results in



WEB RESOURCES

This section of the NE Assistance & P2 News lists useful web resources that are related to the topic of the Feature Article.

For more information contact: Andy Bray, NEWMOA (617)367-8558 x306; abray@newmoa.org.

Energy Information Administration

This website, presented by the U.S. Energy Information Administration, contains statistical information on renewable and alternative fuel consumption in the U.S., including biomass.
www.eia.doe.gov/fuelrenewable.html

Fuel Economy Guide

The U.S. Department of Energy (DOE) and U.S. Environmental Protection Agency (EPA) set up the “Fuel Economy Guide” and website to provide information on alternative fuel vehicles and technologies, including ethanol and biodiesel.
www.fueleconomy.gov/feg/current.shtml

National Biodiesel Board

The National Biodiesel Board is a trade association representing the biodiesel industry in the U.S. This website contains fact sheets and information on biodiesel fuels, as well as news stories and current events related to biodiesel.
www.biodiesel.org/

National Renewable Energy Laboratory

Learn about the National Renewable Energy Laboratory’s research on biomass energy, which can be converted into liquid fuels (i.e., biofuels) for transportation purposes.
www.nrel.gov/learning/re_biomass.html

U.S. Department of Energy Alternative Fuels Data Center

The Alternative Fuels Data Center (AFDC) is an online collection of data, including more than 3,000 documents and several interactive tools covering the topics of alternative transportation fuels, alternative fuel vehicles, hybrid electric vehicles, idle reduction technologies, fuel blends, and fuel economy.
www.eere.energy.gov/afdc/about.html

U.S. Department of Energy Biomass Program

The U.S. DOE’s Office of Energy Efficiency and Renewable Energy Biomass Program works with industry, academia, and national laboratory partners to research conversion technologies and develop biomass feedstock into biofuels, bio-power, and bio-products.
www1.eere.energy.gov/biomass/

U.S. Department of Energy Consumer’s Guide

U.S. DOE provides information on the two most common forms of biofuels for use in transportation – ethanol and biodiesel.
www.eere.energy.gov/consumer/renewable_energy/biomass/index.cfm/mytopic=50002

an overall consumption of B-100 as described in the following table:

Calendar Year	B-100 (Percent)
2007	0.5
2008	1.0
2009	2.0
2010	3.0
2011	4.0
2012	5.0

For more information contact: Carlos Montes, NYS DEC (518) 402-9469, clmontes@gw.dec.state.ny.us.

Northeast Waste Management Officials' Association (NEWMOA)

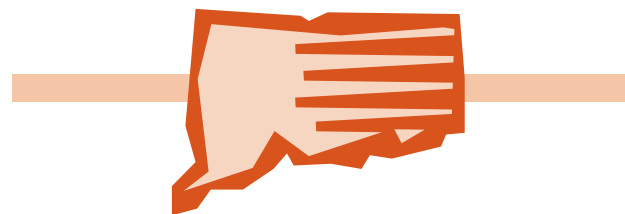
NEWMOA recently conducted a survey of its eight member state environmental agencies to provide a snapshot of the proposals that have been submitted for development of biofuels facilities. The purpose of the survey was to ascertain whether there were similarities among the projects in the states in terms of the types of biofuels that entities are interested in developing, the status of the various proposals in the states, and the permitting challenges that the states are facing with these projects.

The results indicate that there are a significant number of ethanol and biodiesel projects being proposed in the region.

The survey was conducted in the Winter 2007, and the results indicate that there are a significant number of ethanol and biodiesel projects being proposed in the region. The survey found that at the time that the state officials completed the questionnaire, 13 ethanol projects had been proposed in the region or were under construction or operational. Most of these (seven) are for ethanol from corn; four are ethanol from cellulose, one from combined feedstocks, and one from waste oils. Of the 18 biodiesel projects, 13 are from soy and 5 are from waste oils. The development of biofuels production capacity in the region is very dynamic, and the number of projects proposed and under construction changes constantly.

For more information contact: Jennifer Griffith, NEWMOA (617) 367-8558 x302, jgriffith@newmoa.org.

PROGRAM UPDATES



CONNECTICUT

Connecticut Department of Environmental Protection (CT DEP)

Green Schools

The Connecticut Legislature recently passed a law requiring that any state-funded K-12 school construction or renovation meet the equivalent of a LEED-silver certification starting in January 2009. State regulations are in the adoption process that will delineate the specific requirements.

The new law will be discussed at a conference for school building stakeholders on September 25, 2007 in New Haven. The conference will also include an overview of the process of building a green school, a case study, and a tour of the Barnard Environmental Magnet School in New Haven. Barnard was built to green standards.

For more information visit: www.CTGBC.org.

Green Cleaning Law

Connecticut Governor M. Jodi Rell recently signed a new state law, *An Act Concerning the Use of Cleaning Products in State Buildings*, which requires all of the chemicals, solvents, and other products used in state offices to meet "Green Seal" environmental standards.

The new law, passed during the recent legislative session, enacts into statute Executive Order 14, which Governor Rell issued in April 2006. That order stated that all state agencies were to buy and use environmentally safe cleaning products that meet or exceed the Green Seal standard.

"Green Seal" is an independent, non-profit organization that promotes the manufacture, purchase, and use of environmentally responsible products and services (see Spring 2007 *Northeast Assistance & P2 News* –

www.newmoa.org/prevention/newsletters/17_1/vol17_1.pdf for a description of Green Seal's green cleaning activities).

The new law exempts disinfectants, sanitizers and other antimicrobial products that are regulated by federal law. The law, Public Act 07-100, is effective October 1, 2007.

For more information contact: Kim Trella, CT DEP, kim.trella@po.state.ct.us.

E-Waste Law

After the most recent legislative session, Governor Rell signed into law Public Act 07-189, which established an end-of-life collection infrastructure for computers, televisions, and monitors. Several different

variations on how to best finance a collection were discussed before finally settling on a "producer responsibility" model. The law is similar to a successful program begun in Maine in 2006.

This unique law places the financial burden for recycling e-waste on the manufacturers. Registered

recyclers will collect the e-waste from municipal transfer stations and other locations and submit a bill to the manufacturers. Towns currently recycling e-waste from their residents pay about \$300 per ton. Under the new program, the towns will have their e-waste picked up and recycled at no expense.

Recyclers can begin billing manufacturers on January 1, 2009. By 2011 these devices will be banned from solid waste facilities in Connecticut. The Department will investigate adding other types of e-waste to the law, such as VCRs, printers, and DVD players. Connecticut residents will be able to get program specific information either from their town or from the CT DEP website.

For more information contact: Tom Metzner, CT DEP, tom.metzner@po.state.ct.us.

Partnering with the Department of Consumer Protection

In an effort to leverage resources and reach as many businesses as possible, the CT DEP has begun working jointly

with the Department of Consumer Protection (CT DCP). The CT DCP sends out licensing information regularly to a multitude of business sectors. As the CT DEP is always trying to get the most recent environmental information to businesses, the two agencies are currently partnering on mailings.

To date, one-page summaries of environmental information have been included with mailings to pharmacists (regarding disposal of pharmaceuticals); retail gasoline dealers (including a summary of regulations on storage, vapor recovery, Emergency Planning and Community Right-to-Know Act or EPCRA spills, and CT DEP resources); and home construction contractors (covering demolition and construction information and resources).

A listing of upcoming mailings is provided monthly to the CT DEP by the CT DCP and, wherever possible, environmental information is added to their licensing update.

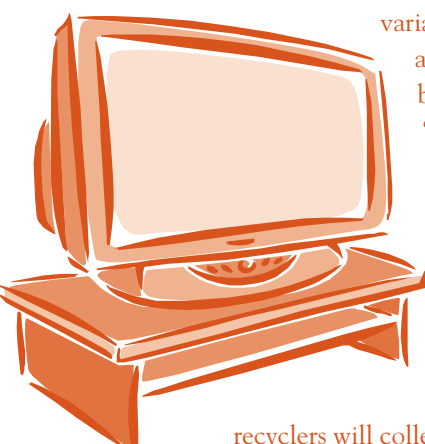
For more information contact: Kim Trella, CT DEP, kim.trella@po.state.ct.us.

National H2E Award

This spring CT DEP's Office of Pollution Prevention received the *Champions for Change Award* for its leadership in assisting Connecticut hospitals with improving their environmental performance. Laura Brannen, Executive Director of Hospitals for a Healthy Environment (H2E), praised DEP, saying "The Connecticut DEP is at the forefront of a fundamental shift in the health care industry; by encouraging the use of healthier and more responsible products and practices, DEP is helping all of Connecticut's health care facilities to operate in ways that better protect the health of patients, workers, communities, and the environment. This is a revolution that benefits everyone."

CT DEP provides education and outreach to hospitals through the Connecticut Hospital Environmental Roundtable (CHER), formed by DEP in 2004 as a way to help hospitals address the growing number of environmental concerns and regulatory requirements facing the health care industry.

For more information visit: www.h2e-online.org or www.ct.gov/dep/p2 (click on Institutions and CHER).





MAINE

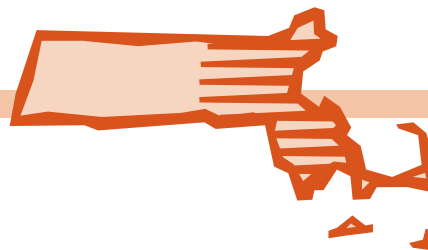
Maine Department of Environmental Protection (ME DEP)

Current activities of the Pollution Prevention Program in Maine DEP's Office of Innovation and Assistance (OIA) include:

- Implementing a state environmental certification program for the hospitality sector targeting hotels, motels, and inns. Launched in November of 2005, there are 53 certified businesses in Maine. The P2 program has performed over 30 site visits for this self-certification program making an average of 10 P2 recommendations at each facility. Verification audits of point totals occur annually at 12 random businesses. The program has been presented at several tourism conferences and half-day workshops.
- Implementing a state environmental certification program for restaurants. Launched in June of 2007, there are currently 10 certified businesses in Maine. The P2 program has performed 10 site visits for this program making an average of 10 P2 recommendations at each facility. This program has been presented at several tourism conferences and workshops.
- Assisting businesses and organizations with calculating greenhouse gas emissions inventories as part of the Governor's Carbon Challenge.
- Managing the Clean Government Initiative to encourage toxics reduction, energy efficiency, and environmentally preferable procurement within Maine state government.
- Assisting six companies and institutions with the implementation of an environmental management system.

- Conducting onsite compliance assistance utilizing Maine's Small Business Compliance Incentive Policy (SBCIP).
- Continuing to provide assistance to the Green Campus Consortium in their efforts to move towards sustainability.
- Working in conjunction with the Climate Change Steering Committee on the New England Governors' and Eastern Canadian Premiers' initiative to reduce greenhouse gas levels 10 percent under 1990 levels by 2012.
- Continuing to provide assistance to a number of industry sectors.
- Revitalizing the Compliance Advisory Panel (CAP) as an effective tool to weigh in on OIA activities.

For more information contact: Peter Cooke, ME DEP (207) 287-7100.



MASSACHUSETTS

Amended MA Toxics Use Reduction Act Offers New Options

The Massachusetts Toxic Use Reduction Act (TURA) program, including the Department of Environmental Protection (MassDEP), Office of Technical Assistance (OTA), and the Toxics Use Reduction Institute (TURI), is moving forward with implementing the changes created by the 2006 amendments to the TURA statute. These changes include alternative planning options and improvements to the TURA list of regulated chemicals.

Alternative Planning Options

New planning options are now available for TURA facilities that have completed a toxics use reduction (TUR) plan and two plan updates. Beginning with plans due July 1, 2008, these facilities now have the option to develop either a resource conservation plan (for

alternating planning cycles) or to implement an environmental management system (EMS) in lieu of a TUR plan, giving facilities the opportunity to integrate their toxics planning efforts into a comprehensive EMS.

A facility choosing to complete a resource conservation plan must select at least one “natural asset” as the focus of the plan and apply the TUR planning methods and source reduction approach on this asset. After developing a resource conservation plan, a facility must return to TUR planning for the following planning cycle two years later. Asset areas that can be included in a resource conservation plan include:

- Water use
- Energy use (including reducing greenhouse gas emissions and shifting to renewable energy sources)
- Other materials and products that contribute to solid waste
- TURA listed toxics used below reporting thresholds
- Chemical substances that are not identified on the list of toxic or hazardous substances
- Toxic substances present in articles (e.g., mercury in bulbs, lead in parts)

If a facility chooses the EMS option, the facility’s EMS must contain certain elements (based generally on ISO 14001) and must integrate toxics use reduction planning for all TURA chemicals and production units into the EMS.

MassDEP issued draft regulations to implement these changes for public comment in August 2007 and expects to promulgate final revised regulations by January 2008. MassDEP is working with OTA and TURI to develop guidance documents for these new options, to be published in Fall 2007. MassDEP will publish revised guidance on toxics use reduction planning in Fall 2007. TURI will offer continuing education training sessions on TURA alternative planning options this winter, and OTA will be developing workshops to assist facilities in these planning efforts.

For more information contact: Julia Wolfe, MA DEP julia.wolfe@state.ma.us; Pam Civie, MA TURI pcivie@turi.org.

Improvements to the List of Regulated Chemicals

Under the amended TURA statute, the Science Advisory Board (SAB) is responsible for recommending up to 10 chemicals per year as higher hazard substances and up to 10 as lower hazard substances. The SAB makes their recommendations to TURI based upon science, and TURI then conducts a policy review. TURI then makes recommendations to the Administrative Council, which is responsible for the final designations of higher and lower hazard substances.

Potential higher hazard chemicals include:

- Trichloroethylene (TCE)
- Perchloroethylene (PCE, or “perc”)
- Cyanide Compounds
- Hydrogen Cyanide
- Formaldehyde
- Arsenic
- Benzene
- Chlorine
- Ethylene Oxide
- Nickel Compounds
- Cadmium Compounds

Potential lower hazard chemicals include:

- N-butyl alcohol
- Sec-butyl alcohol
- Ethylene glycol
- Methanol
- Silver in alloy form
- Zinc in alloy form
- Acetone
- Acetic acid (>12 percent concentration)
- Isobutyl alcohol
- Methyl Ethyl Ketone
- Ethyl Acetate

The SAB and TURI are also in the process of evaluating TURA chemicals originating from the CERCLA chemical list to make a recommendation to the Administrative Council as to which chemicals should be retained. The next Administrative Council public meeting is October 31, 2007, 1:30pm – 3:30pm, 100 Cambridge Street, Boston, MA.

For more information contact: Heather Tenney, MA TURI (978) 934-3260, heather_tenney@uml.edu; visit www.turi.org/government/sab/science_advisory_board.

Massachusetts Department of Environmental Protection (MassDEP)

Hazardous Waste Manifest Regulations

The Massachusetts Department of Environmental Protection (MassDEP) has promulgated the final regulations relating to the new hazardous waste manifest. The current Hazardous Waste regulations, along with MassDEP’s responses to the comments on draft manifest amendments submitted after the proposed regulations were published on MassDEP’s website: mass.gov/dep/recycle/laws/regulati.htm#hw. The relevant part is section 30.310 (the generator’s responsibilities). The important features include:

- The generator has to use the six copy federal form now (EPA form 8700-22). The new change is that the generator must provide a copy within 30 days to MassDEP when shipping directly to an out-of-state facility (30.313(4)). If shipping to a destination within the state, generators do not have to send MassDEP a copy of the manifest. (See the manifest at: www.epa.gov/epaoswer/hazwaste/gener/manifest/pdf/newform.pdf. The relevant address is in box # 8. If that address is within Massachusetts, generators do not have to send a copy of the manifest to MassDEP).
- The time for facilities to send manifest copies back to generators has also been lengthened from 14 to 30 days.
- Massachusetts has adopted the federal rules for rejected shipments.

For more information contact: MA Office of Technical Assistance & Technology (617) 626-1060.

Massachusetts Office of Technical Assistance (MA OTA)

High Speed Digital Printing/UV Curing

The John Adams Innovation Institute awarded The Office of Technical Assistance and Technology (OTA) a grant of \$150,000 through its Regional Priority Grants Program to investigate high speed digital printing using wide format printers and radiation-curable materials. This project will address energy consumption and environmental compliance issues with a goal of accelerating the development and adoption of this technology, which will significantly improve the product mix, competitiveness, and profitability of textile printing operations compared to conventional textile screen printing.

Preliminary results indicate significant progress towards project objectives. Digital printing of a single-color pattern was conducted at a speed of 200 feet per minute on a 3 inch cotton web. The printed fabric was also successfully cured with ultraviolet (UV) radiation. The project is working to accommodate wider webs, increase the range and depth of colors and improve the cure efficiency of the pigments.

For more information contact: Gus Ogunbameru, MA OTA (617) 626-1065.

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Chemical Safety & Security Initiative

The Central Massachusetts Business Environmental Network (CMBEN) organized a presentation on Current Chemical Safety and Security Initiatives. The meeting took place on September 11, 2007 at the Abbott Bioresearch Center in Worcester, Massachusetts and focused on the recent efforts of the MassDEP, State Fire Marshall’s Office, and U.S. Department of Homeland Security.

Ed Kunce, MassDEP Deputy Commissioner spoke about the inspections that the Department and the State Fire Marshall’s Office are undertaking in the wake of response actions at industrial facilities in South Hadley and Danvers, Massachusetts. John Farrell of the U.S. Department of Homeland Security (USDHS) spoke about the new rules by USDHS to have companies register, if their storage of listed chemicals exceeds threshold quantities, through the use of the Chemical Security Assessment Tool (CSAT). These initiatives are not just about “chemical plants” but target a wide-range of facilities under a broad definition of chemical usage.

For more information contact: Marina Gayl, MA OTA (617) 626-1077.

Spray Booth Workshops

MassDEP is revising the air regulations for spray booths. MA OTA will host a series of workshops tentatively scheduled for the fall of 2007 to provide information on these revised regulations and how they affect companies with spray booths. Check the OTA website for the dates and locations of these workshops.

For more information contact: Michelle Miilu, MA OTA (617) 626-1094.

Safe Development of Nanotechnology

On November 15, 2007 MA OTA, with support from MassDEP, The Massachusetts Division of Occupational Safety and the Massachusetts Department of Public Health, will host a conference in Marlborough, Massachusetts for both the growing nanotechnology industry in Massachusetts and other concerned parties. Nanotechnology poses tremendous possibilities for greener products and economic development. However, nanotechnology is similar to genetic modification and other new technologies in that it poses uncertain risks with a possibility of inciting fears and prohibitive ordinances. New hazards have already been documented, and there is little indication that industry is adapting to protect workers, consumers, and the environment.

The conference will present current thinking about what the proper risk assessments and protections should be, and what further tools or protocols are necessary, so that the development of new and useful products will not be impeded. The conference will feature presentations on the following topics: EPA's White Paper; Woodrow Wilson Institute's perspective; the Environmental Defense/Dupont Risk Assessment Framework; EU initiatives; TURI's conference; legal, policy, and economic considerations; life-cycle perspective; the adequacy of traditional tests and test organisms; new dermal, inhalation, and ingestion risks; biodegradability; reactivity; and physical characteristics. More than 70 entities now known to be developing nanotechnology will be invited. At the conference there will be several opportunities to share information, so that the event is an exchange and open forum, as well as an opportunity to hear from experts. The goal of the event will be to extract and present practical suggestions from the

presentations and to structure discussions so that they produce policy recommendations and consensus outcomes.

For more information contact: Rick Reibstein, MA OTA (617) 626-1062, rick.reibstein@state.ma.us.

Massachusetts Toxics Use Reduction Institute (MA TURI)

Online Library Catalog Available

Search the new TURI Library Catalog for the latest information on hazardous chemicals, alternatives, innovative technologies, and pollution prevention methods. What's different about these 14,000 documents? All of the selections have been hand-picked by TURI's information and pollution prevention specialists to ensure their relevance to P2 research needs. Bookmark this site for future research projects to find articles and reports all in one place.

For more information contact: Jan Hutchins, TURI (978) 934-3390; visit www.turi.org (click on TURI Library Catalog).

Companies Find Safer Alternatives to TCE

With support from the EPA Region 1-NE, the TURI Laboratory has provided on-site technical assistance to help "mom and pop" metal finishing companies find safer alternatives to TCE. During the past year, companies that attended the initial training reduced their use of TCE by nearly 10,000 pounds. Companies and assistance providers can find information on safer alternatives in the online cleaner solutions database (www.turi.org), which documents test results of alternatives.

For more information contact: Jason Marshall, TURI (978) 934-3133, Jason@turi.org.



The Northeast A & P2 Round table is a member of the Pollution Prevention Resource Exchange, P2Rx, a national network of regional P2 information centers linked together to facilitate information retrieval from experts around the country.

For more information visit:
www.newmoa.org/prevention or www.P2Rx.org.

10 Community Grants

TURI funded \$68,200 in community grants in August 2007 to help Massachusetts organizations raise awareness about toxics in everyday products and encourage the use of safer alternatives. New to the 2008 TURI Community Grant Program is two-tier funding: Tier 1 project grants range up to \$1,000 and Tier 2 grants range up to \$15,000.

The following four organizations received \$1,000 each to integrate toxics use reduction concepts into on-going projects or build capacity to apply for a Tier 2 grant next year:

- Friends of Tyler Park, Lowell, MA – will encourage the reduction of pesticide use in Lowell’s residential and civic spaces with a non-pesticide demonstration lawn site at Tyler Park
- The Organic Land Care Program of NOFA/ Massachusetts Chapter, Inc., Barre, MA – will offer scholarships to six Massachusetts municipal employees to attend an organic lawn care course
- Brazilian Women’s Group, Allston, MA – will educate Brazilian house cleaners about choosing safer cleaning products
- Holliston Fire Department – will build a program to educate the public about MassDEP pesticide regulations, the risks of pesticides, and alternative ways to maintain a healthier yard

TURI awarded the following organizations grants ranging from \$1,300 to \$15,000:

- Cape Cod Cooperative Extension, Barnstable, MA – will promote the use of new LED flares to boaters and emergency responders as an alternative to flares containing perchlorate and other hazardous substances
- ECOprojects, Jamaica Plain, MA – will educate low income Lynn residents about how to identify chemical hazards due to common household practices and ways to detoxify the home to reduce asthma triggers
- The Organic Mom, Inc., Dighton, MA – will host two free environmental lectures to raise public awareness of toxics inside and outside of the home

- Town of Townsend, Conservation Commission – will provide a visible, public display of organic lawn care practices by improving a lawn that is in poor condition without the use of pesticides
- Worcester Youth Center – will increase awareness among low income inner city youth about harmful chemicals found in everyday products used at home
- Vietnamese American Initiative for Development, Inc., (Viet-AID), Dorchester, MA –will promote safer hardwood floor finishing products to companies and consumers

For more information contact: Joy Onasch, TURI (978) 934-4343, Joy@turi.org.

Small Grant Goes a Long Way

Michael Browne, a 16-year-old Boy Scout received a \$500 grant from TURI last year for his “Get the Lead Out of Fishing” Eagle Scout project. Not only was his project successful, but Michael received the Hero of Conservation Award by *Field and Stream* magazine, the “world’s leading outdoor magazine” that boasts a circulation of 1.5 million.



Michael attended fishing derbies and offered anglers lead-free sinkers in exchange for lead sinkers. He raised awareness of the dangers of lead to wild game, birds, and fish by distributing educational materials to more than 500 Boston area Boy Scouts, families, and area residents.

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For more information contact: Joy Onasch, TURI (978) 934-4343, Joy@turi.org.

Toxics Use Reduction (TUR) Planner Course

The TUR planners' course focuses on TUR planning and is open to anyone interested in learning how to systematically compare and implement opportunities to reduce toxic chemical use and continually improve a Toxics Use Reduction (TUR) Program. The course also presents detailed information about how to modify and certify an existing TUR plan.

For more information contact: Anne Basanese, MA TURI (978) 934-3144, Anne_Basanese@uml.edu.

New England Lead Free Consortium

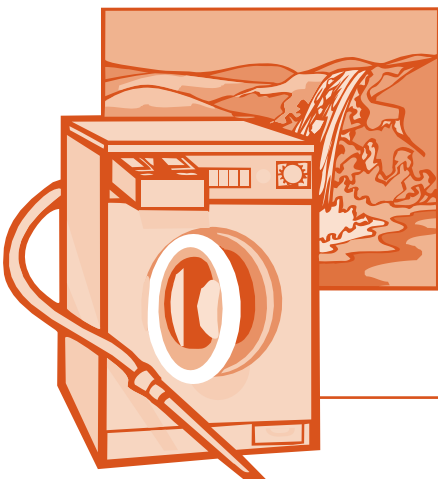
A major issue with transitioning to lead-free electronics is the copper dissolution that occurs during rework of components. In the August issue of *Circuits Assembly* magazine, an article by the New England Lead Free Consortium describes a project that TURI, Benchmark Electronics, and Mercury Computer Systems undertook to demonstrate that rework is possible on lead-free boards with minimal copper dissolution. The full story is available at circuitsassembly.com/cms/content/view/5201/95.

For more information contact: Gregory Morose, MA TURI (978) 934-2954, Greg@turi.org.

Wet Cleaning Demonstration

The Toxics Use Reduction Institute (TURI) and the Northeast Fabricare Association (NEFA) will host a Wet Cleaning Demonstration Day for garment cleaners across Massachusetts in the fall of 2007. The purpose of the event will be to demonstrate the latest technology in the wet cleaning industry and how 100 percent of garment cleaning can be conducted in state-of-the-art machines. A set of equipment including a washer, dryer, and tensioners will be on hand and test loads will be run. The demo-day will run from 12-4 on a Sunday, most likely in October.

For more information contact: Joy Onasch, MA TURI (978) 934-4343, joy@turi.org.



NEW HAMPSHIRE

New Hampshire Department of Environmental Services (NH DES)

Green Slopes Workshop

In July, the New Hampshire Department of Environmental Services hosted the “Green Slopes – Reducing Emissions One Engine at a Time” workshop for New Hampshire, Vermont, and Maine ski resorts. The workshop covered the importance of idling reduction and the benefits of using biodiesel blends as an alternative to diesel fuel. Loon Mountain in Lincoln, New Hampshire gave a short description of why and how they implemented an idling reduction campaign. Cranmore Mountain in North Conway, New Hampshire gave a presentation on their successful biodiesel initiative.



For more information contact: Tara Mae Goodrich, NH DES (603) 271-0878, tgoodrich@des.state.nh.us; visit www.des.nh.gov/nhppp/greenslopes.htm.

Recycling at Transfer Stations

The NH Pollution Prevention Program is promoting the Rechargeable Battery Recycling Corporation (RBRC) and the Thermostat Recycling Corporation (TRC) programs among New Hampshire transfer stations and recycling centers. The P2 Program ordered free battery boxes and purchased 20 thermostat bins for distribution to the towns interested in recycling household generation of these items. To promote the opportunity, the P2 Program partnered with the NH Department of Environmental Services Solid Waste Operator Training Program and set up display tables at their monthly workshops. Ten



NEW PUBLICATIONS & EDUCATIONAL MATERIALS

The following is a list of **new** publications and other educational resources available online.

Organic Land Care DVD

CT's Organic Land Care DVD (which was summarized in the Spring 2007 *Northeast Assistance & P2 News* – www.newmoa.org/prevention/newsletters/17_1/vol17_1.pdf), is now available for download from the CT DEP website (www.ct.gov/dep, search on organic land care).

For more information contact: Judy Prill, CT DEP, Judith.prill@poa.state.ct.us.

MA OTA Case Studies

Lightolier, A Division Of Genlyte: Elimination of Trichloroethylene & Reduction of VOC Emissions
Lightolier has eliminated the use of approximately 1.25 million pounds of trichloroethylene at their Fall River, Massachusetts plant. The company found less toxic alternatives and modified their production process, which eliminated more than 4 million pounds of air emissions, with savings of more than \$2 million. Energy and Environmental Affairs Undersecretary Phillip Griffiths recognized the company for their TUR efforts at a recognition ceremony in August. Representative Sullivan also presented the company with a citation from the Massachusetts legislature.

Case study available at: www.mass.gov/envir/ota/publications/case_studies1.htm.

SouthCoast Technical Products: Filtration & Wastewater Compliance

SouthCoast Technical Products made changes to their operating processes that brought the company into compliance with Massachusetts environmental regulations and led to significant reductions in water use. By switching from an elaborate ultra filtration unit to a simple bag filtration process, the company was able to reduce more than 200,000 gallons of water and save \$37,000 per year.

Case study available at: www.mass.gov/envir/ota/publications/case_studies1.htm.

New Chemical Fact Sheets

MA TURI recently released two new chemical fact sheets—perchloroethylene (PCE) and Di (2-ethylhexyl) phthalate (DEHP)—two of the five chemicals TURI researched in 2006 as reported in the “Five Chemicals Study.” Companies, community organizations, and residents can find out about how the chemicals are being used and by which companies, the health and environmental effects, and the latest information about the availability of safer alternatives. Download the fact sheets at the TURI web site. Look for updates to two more chemical fact sheets – lead and formaldehyde – in the next few months.

For more information contact: Pam Civie, MA TURI, (978) 934-3142, pcivie@turi.org; visit www.turi.org.

towns signed up for battery boxes, and 15 towns signed up for thermostat bins.

For more information visit: www.rbrc.org/call2recycle/ on battery recycling and www.nema.org/gov/ehs/trc/ on thermostat recycling.

MVP2 Award

The NH Department of Environmental Services was awarded the Most Valuable Pollution Prevention Award from the National Pollution Prevention Roundtable for the NH Green Yards program, which promotes best management practices (BMPs) in motor vehicle salvage facilities. Twenty motor vehicle salvage yards have been

The NH Department of Environmental Services was awarded the Most Valuable Pollution Prevention Award from the National Pollution Prevention Roundtable for the NH Green Yards program, which promotes best management practices (BMPs) in motor vehicle salvage facilities.

certified as NH Green Yards. The yards recycled or reused an estimated 114,450 gallons of gasoline, 32,100 gallons of oil, and 37,700 gallons of antifreeze that could have potentially been discharged to ground or surface water. In addition to promoting BMPs to salvage yards, the project also targets municipal officials to educate them on the rules and regulations for licensing facilities as well as a general overview of BMPs.

For more information contact: Sara Johnson, NH DES (603) 271-6460, sjohnson@des.state.nh.us; visit www.des.nh.us/sw/greenyards.

Pollution Prevention News!

NEWMOA's Pollution Prevention Resource Exchange (P2Rx) Center collects and publishes online assistance and P2-related news items. P2News is frequently updated – so check in regularly.

www.newmoa.org/prevention/p2news/



NEW JERSEY

New Jersey Department of Environmental Protection (NJ DEP)

Toxic Release Inventory Central Data Exchange

The federal Toxic Release Inventory (TRI) regulations stipulate that facilities must submit their TRI forms to the EPA and applicable State Agencies. The NJ DEP's Office of Pollution Prevention and Right to Know (P2RTK) is the applicable State Agency in New Jersey.

Recognizing the potential to improve customer service to the regulated community, reduce the amount of paper and diskettes received and filing space required, P2RTK and the NJ DEP's Office of Information Resource Management (OIRM) partnered with EPA on the TRI Central Data Exchange (CDX) initiative. When facilities submit their TRI forms to EPA via the TRI Made Easy (TRI-ME) software, the forms are sent simultaneously, via the Exchange Network, to the Office of Pollution Prevention and Right to Know, and a facility's obligation to submit its TRI forms to NJ DEP is satisfied.

The P2RTK Office plans to use these TRI data for extensive data quality analyses. New Jersey is one of only two states in the nation (Massachusetts is the other) that requires industry to report on materials accounting (chemical use) of toxic and hazardous substances.

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P2RTK Office collects materials accounting data on the NJ Release and Pollution Prevention Report (RPPR). TRI CDX submissions will allow P2RTK to more efficiently compare what is being reported to the EPA on the TRI to what is being reported on the RPPR. Comparisons will be made facility-by-facility, chemical-by-chemical, and release-by-release with the TRI data. TRI Form R Section 8 Source Reduction and Recycling Activities data will also be compared with P2 data reported on the RPPR.

Thanks to the effort of the P2RTK and OIRM staff, this program became available to industry in time to meet the July 1, 2007 reporting deadline. To date, approximately 84 percent of NJ's TRI facilities have submitted by CDX even though NJ was not listed as a participant in the TRI-ME software and effectively came on line only 6-7 weeks before the due date.

For more information contact: Andy Opperman, NJ DEP (609) 777-0518.

Green Auto Repair

NJ DEP's P2RTK Office was approached by representatives of the Automobile Association of America's New Jersey Chapter (AAA-NJ) about the possible development and implementation of a "Green Auto Repair" program. A similar program, being successfully implemented in Arizona with AAA involvement, prompted AAA-NJ to explore duplicating this worthwhile program.

The program would be modeled after the Arizona Department of Environmental Quality's (DEQ) Green Business Program. Essentially, AAA and NJ DEP would develop an application/checklist covering such areas as pollution prevention, parts cleaning, brake service, recycling, waste management, housekeeping, and energy and water conservation. Each "green" activity would have a point value, and a repair shop would need to achieve a certain number of points to be considered a "green" auto repair shop. This voluntary program would be open to AAA and non-AAA-NJ affiliated auto repair shops. AAA-NJ staff would conduct audits of each applicant to determine if they are implementing all the activities stated on their application.

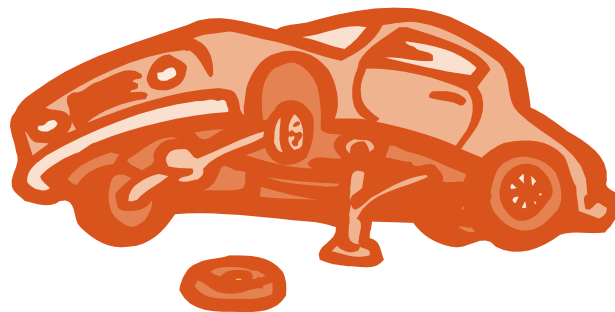
Once it is determined that a shop is "green," recognition would be provided by NJ DEP and AAA-NJ in the form of a decal, plaque, or sign and possibly a listing on a NJ DEP Green Auto Repair Shop website.

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This particular industry sector is a low priority for NJ DEP inspections; therefore, this program would provide an opportunity for the DEP to reinforce compliance with relevant rules and regulations. The Agency envisions that staff from the NJ DEP's Small Business Assistance Program (SBAP) would conduct audits on a certain number of facilities already audited by AAA-NJ to ensure the credibility of the AAA-NJ audits. This program would be tailored to be consistent with the NJ DEP's Action Plan priorities.

Given the increased interest in "being green," AAA-NJ and NJ DEP hope that a Green Auto Repair designation will have a positive economic benefit for participants, and potentially for the State, by encouraging the suppliers of equipment and materials to locate in New Jersey. This fits in with the Governor's initiative to attract business to New Jersey.

For more information contact: Michael DiGiore or Ky Asral, NJ DEP (609) 777-0518.





New York State Department of Environmental Conservation (NYS DEC)

Reducing Mercury in Schools

The NYS DEC Pollution Prevention Unit in conjunction with staff from the Northeast Waste Management Official's Association (NEWMOA) has continued to conduct half-day workshops. The goal of these workshops is to promote the elimination of mercury in schools. Twenty (20) workshops were conducted from October 2006 through June 2007. The goal to reach every county in the state was nearly reached, as 50 of 52 participated in the workshop program.

For more information contact: Deborah Knight, NYS DEC (518) 402-9469, djknight@gw.dec.state.ny.us.

Chemical Cleanout at Schools

NYS DEC staff is working on the next phase of a program to assist schools with complying with environmental requirements and implementing pollution prevention. The program will now focus on science laboratories and assist schools in inventorying and properly disposing of unwanted chemicals.

For more information contact: Deborah Knight, NYS DEC (518) 402-9469, djknight@gw.dec.state.ny.us.

Small Business Program & Council

The Small Business P2 and Environmental Compliance Council has established a workgroup to assist the Division of Solid and Hazardous Materials in the development of an Environmental Results Program (ERP) to reach out to the auto body and printer sectors. The Council is also developing an outreach program to identify opportunities to introduce pollution prevention technologies to the businesses in SIC codes 30 (Plastics), 32 (Stone/Clay/Glass), and 36 (Electrical).

For more information contact: Dennis Lucia, NYS DEC (518) 402-9469, djlucia@gw.dec.state.ny.us.

Environmental Leaders Program (NYEL)

The NYS DEC is implementing the New York Environmental Leaders (NYEL) to provide recognition and incentives for those organizations that can demonstrate the use of pollution prevention practices, beyond compliance performance, or sustainable business practices as a result of their participation in NYEL. Further, NYEL focuses on enabling those organizations that are committed to making improvements in their environmental performance. NYEL provides organizations incentives to sustain their existing high levels of performance, and to motivate and enable organizations that are committed to reaching higher levels of performance.

For more information contact: John Vana, NYS DEC (518) 402-9469, jmvana@gw.dec.state.ny.us.

Environmental Excellence Awards (EEA)

The 2007 NYS Environmental Excellence Awards (EEA) program has started. Applications have been received and reviews are underway. The awards ceremony is expected to be held in December 2007.

For more information contact: Marna Posluszny, NYS DEC (518) 402-9469, maposlus@gw.dec.state.ny.us.



Pollution Prevention Institute

The Department of Environmental Conservation is issuing a Request for Proposal (RFP) for eligible entities to submit proposals to develop and implement a pollution prevention institute (hereafter, "the Institute") in New York State. The Institute will be supported by a new category in the Environmental Protection Fund that provides up to \$2 million in state assistance funding for the formation of an institute. A contract will be awarded to one public or private university or non-profit institution, or to a consortium of such organizations. The

Institute must be established, operated, and maintained in New York State. Options may include a single center, a single center with satellite offices, or a group of multiple entities with specialty services. All centers, offices, facilities, entities, and groups must be located in New York State.

The Institute will offer an unparalleled center for technology evaluation and development as well as training and assistance to state businesses and organizations involved in pollution prevention.

The Institute will offer an unparalleled center for technology evaluation and development as well as training and assistance to state businesses and organizations involved in pollution prevention. The Institute will promote cost effective methods of reducing and eliminating the use of toxic substances in the manufacturing process.

The Institute will make businesses more competitive by enabling them to be more efficient. Incorporating research and development, technology transfer, technology demonstration, education, outreach, and workforce development, the Institute will focus on sustainability and toxic use reduction over the course of the product life cycle.

The Institute will foster partnerships between businesses, universities, state and local governments, and health and environmental organizations. These partnerships will stimulate the research and development of cutting-edge environmental technologies that will promote sustainable economic development. The Institute will focus on priorities that optimize environmental benefit and economic development.

RFPs will be mailed to prospective applicants on or after September 1, 2007.

For further information contact: Michelle Hinman, NYS DEC, depprmt@gw.dec.state.ny.us.

New York City Department of Environmental Protection (NYC DEP)

P2 for Auto Body Shops

In 2006 the NYC Department of Environmental Protection's (NYC DEP) Environmental Economic Development Assistance Unit (EEDAU) was awarded a \$20,000 grant under the Keyspan Ravenswood Community Impact Fund. This Fund, held by and in the name of the NYC Economic Development Corporation, provides funding for community and environmental improvement efforts in the Community Board 1 District of Queens, NY.

EEDAU's program, administered with the Queens Economic Development Corporation (QEDC), assists Community Board 1 auto body shops with the financing of dust-free sanding (DFS) systems and high volume low pressure (HVLP) paint spray guns. DFS systems are used to collect the harmful sanded-wastes and particulates that are created during the "sanding" of automobiles, and can prevent up to 90 percent of these emissions from being released into the workplace and surrounding communities. HVLP spray guns use approximately 25 percent less paint, and emit approximately 25 percent fewer volatile organic compounds (VOCs), and 50 percent fewer particulates than conventional spray guns.

EEDAU and the QEDC conducted an aggressive outreach effort to encourage participation in this project. The Long Island City Business Development Corporation, a business assistance organization that is active in the district, also provided valuable assistance in this outreach effort. As a result of these efforts, thus far 13 companies have submitted applications to participate in the project. Moreover, 9 of these applicants have purchased equipment that is eligible for a rebate under the Keyspan funding, and over \$12,000 in payments have been allocated. All program applicants undergo a screening process, including a review of their compliance with NYC DEP permit requirements.

Pursuant to the program guidelines, participants were also required to attend a training session relating to DFS and/or HVLP equipment. These sessions were conducted by leading suppliers of DFS and HVLP equipment, and focused on the optimal usage of these devices in order to reduce emissions. Each session also featured

a presentation by QEDC regarding their economic development programs. The two training sessions were attended by over 50 auto body shop professionals.

EEDAU and QEDC are continuing to allocate funding under the program for DFS and HVLP equipment, and data is being collected to estimate the emission reductions resulting from deployment of the program-financed equipment.

For more information contact: NYC DEP's EEDAU (718) 595-4454.



RHODE ISLAND

Rhode Island Department of Environmental Management (RI DEM)

Auto Salvage Yard Certification

Rhode Island Department of Environmental Management (RI DEM) completed the stakeholder process for the Auto Salvage Yard Facilities Certification Program in early spring 2007, and then piloted the checklist with three auto salvage yard facilities to assess ease of use, identify any problems, and receive input, before finalizing documents and introducing the program to the entire sector. This is an Environmental Results Program (ERP) initiative that features self-certification, compliance assistance, and performance measurement.

Certification materials were mailed to Rhode Island auto salvage yard facility operators in May with introductory training held in June. At the same time, RI DEM launched its new Auto Salvage Yard Facilities Certification Program webpage on the RI DEM website (www.dem.ri.gov/programs/benviron/assist/asy/index.htm). The webpage contains documents and information for the certification program, and also serves as an informational resource to auto salvage yard facility operators.

A half-day Stormwater Management training workshop was held in June, sponsored in partnership with the Narragansett Bay Commission (NBC). The workshop

was offered to auto salvage yard facility operators and NBC significant industrial users. A brief introductory training session for the certification program was held at the end of the workshop. The workshop and introductory training were attended by 44 people from auto salvage yard facilities, representing 26 facilities, or 37 percent of the active auto salvage yards. Attendance at the workshop was not required to participate in the certification program for which participation is voluntary. Certification checklists from participating facilities are due to RI DEM by September 15, 2007.

For more information contact: Thomas E. Armstrong, RI DEM (401) 222-4700 x4412, Thomas.armstrong@dem.ri.gov.

Exterior Lead Paint Removal Certification

The Exterior Lead Paint Removal Certification Program will be commencing with its second round of certification by painting contractors in the fall of 2007.

RI DEM's webpage (www.dem.ri.gov/programs/benviron/assist/extlead/index.htm) for Exterior Lead Paint Removal continues to be a resource for painting contractors as well as the general public. It contains documents and information for the certification program, the list of certified contractors, as well as being a resource for exterior lead paint removal information, the federal Pre-Renovation Education Rule, and other lead renovation information.

The certification program covers RI DEM's Air Pollution Control Regulation #24 (Removal of Lead Based Paint from Exterior Surfaces) as well as the federal Lead Pre-Renovation Education Rule. The federal Lead Pre-Renovation Education Rule was issued under the authority of Section 406(b) of Title IV of the Toxic Substances Control Act (TSCA) and became effective in June 1999. It requires contractors, property managers, and others, who perform renovations (including paint removal) for compensation in residential housing that may contain lead-based paint, to provide lead information to residents before renovating. They must provide the pamphlet "Protect Your Family from Lead in Your Home" to owners and occupants, and receive a signed statement of receipt of the pamphlet before work begins on the project.

It applies to residential houses and apartments built before 1978, and renovations include most repairs, remodeling, and maintenance activities that disturb painted surfaces. This rule is based on concern that potential lead exposure risks could occur during renovations of housing that contains lead-based paint, and the belief that informed owners and occupants on property scheduled for renovation could take actions to avoid lead exposure to themselves and their families. For information on this rule visit: www.epa.gov/lead/pubs/leadrenf.htm.

For more information contact: Thomas E. Armstrong, RI DEM (401) 222-4700 x4412, Thomas.armstrong@dem.ri.gov.

New Program for the Hospitality & Tourism Industry

RI DEM Office of Technical and Customer Assistance (OTCA) staff participated in a meeting with representatives from the six New England states, EPA, and industry in April 2007 to discuss green hospitality initiatives in New England.

Since that time, RI DEM, in partnership with the Rhode Island Hospitality & Tourism Association (RIH&TA), has been developing an Environmental Leader Certification Workbook and checklist. The RIH&TA has over 500 food service and hospitality members. The document has been modeled after the Maine Department of Environmental Protection's program.

The workbook and checklist address administrative office procedures, purchasing, recycling and waste management functions, kitchen and housekeeping departments, landscaping and maintenance departments, guests and staff room issues, water conservation, energy, environmental initiatives, and other creative initiatives.

The workbook and checklist will be piloted in the fall of 2007 with a small number of facilities to assess ease of use and identify any problems before being introduced to the entire sector.

For more information contact: Thomas E. Armstrong, RI DEM (401) 222-4700 x4412, Thomas.armstrong@dem.ri.gov.



VERMONT

Vermont Department of Environmental Conservation (VT DEC)

Business Conference

Building on the success of last year's conference, the second annual "Greening Up Your Bottom Line" statewide business sustainability conference will be held in Burlington on September 25 at the Sheraton Hotel and Conference Center. The conference is organized and sponsored by a consortium of businesses and governmental organizations and will feature sessions on greenhouse gas emissions reductions, environmental management and planning, green marketing, green buildings, and best environmental management practices.

For more information visit: www.vbep.org.

Thermostat Collection Pilot Project

Vermont Department of Environmental Conservation (VT DEC) is planning to conduct a two-month homeowner mercury thermostat take back pilot this fall with several hardware store chains. As part of the pilot, homeowners can turn in up to three mercury thermostats and receive a \$5 coupon off the purchase of any item in the participating hardware store. The pilot will evaluate the feasibility and effectiveness of a financial incentive of this type. It is expected that more than 75 hardware stores will participate in the pilot. The incentive will be funded through a special mercury reduction fund.

For more information contact: Gary Gulka, VT DEC (802) 241-3626, gary.gulka@state.vt.us.

Mercury Education & Reduction

VT DEC is completing a review of compliance self-certifications of dental best management practices (BMPs) by Vermont dental practices. More than 95 percent of practices have complied with the BMPs, including installation of amalgam separators. A survey

VT DEC is completing a review of compliance self-certifications of dental best management practices (BMPs) by Vermont dental practices. More than 95 percent of practices have complied with the BMPs, including installation of amalgam separators.

of amalgam use by Vermont dentists has been conducted to determine mercury use and reduction. The Vermont State Dental Society has assisted VT DEC in achieving high compliance rates with dental BMPs.

VT DEC is completing an assistance project with Vermont's 16 hospitals that involves the development of mercury reduction plans that address mercury use in patient care settings, including outpatient facilities. This project will document and quantify mercury reductions that have occurred in the last few years and future commitments to mercury reduction.

For more information contact: Gary Gulka, VT DEC (802) 241-3626, gary.gulka@state.vt.us.

Vehicle Service & Repair Outreach

VT DEC has completed a series of 11 environmental workshops for vehicle service and repair businesses as a way to promote its new environmental guidebook (www.anr.state.vt.us/dec/ead/sbcap/resources.htm).

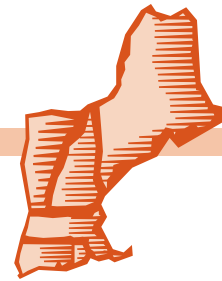
As a result of the workshops, over 60 businesses have requested on-site visits for compliance and pollution prevention assistance. The Agency is in the process of conducting these assessments this summer and fall.

For more information contact: Gary Gulka, VT DEC (802) 241-3626, gary.gulka@state.vt.us.

Workshops for Conditionally Exempt Generators

VT DEC and the Vermont Small Business Development Center are sponsoring three environmental workshops in September for conditionally exempt hazardous waste generators in Williston (Sept. 12), Rutland (Sept. 20), and Randolph Center (Sept. 27). These workshops are held on a regular basis each year and have been popular with smaller businesses and municipalities.

For more information visit: www.vtsbdc.org



EPA REGION 1 - NEW ENGLAND

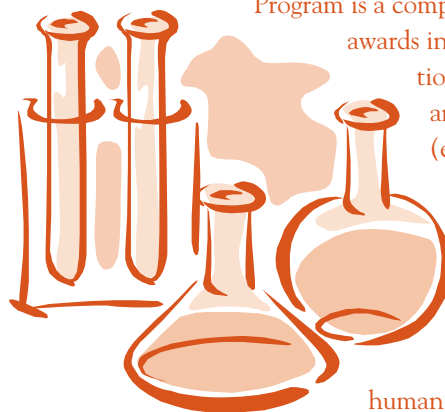
EPA New England Healthcare Assistance

The EPA New England Healthcare Assistance program provides facilities with information to help reduce the environmental impacts of operations and improve the understanding of and compliance with environmental regulations. The program also helps facilities realize the cost savings and environmental benefits that can be attained through improvements in recycling, energy efficiency, and water conservation. The program also maintains the EPA New England Hospital e-mail group that distributes regular e-mailings on a wide range of timely and important issues directly relevant to hospitals.

For more information contact: Janet Bowen, EPA Region 1-NE (617) 918-1795, bowen.janet@epa.gov; visit www.epa.gov/region1/healthcare/index.html.

Presidential Green Chemistry Challenge Awards

The Presidential Green Chemistry Challenge Awards Program is a competition for annual awards in recognition of innovations in cleaner, cheaper, and smarter chemistry (entries must be sent no later than December 31). Applications must describe the technical benefits of a green chemistry technology as well as human health and environmental benefits. The program



is open to all individuals, groups, and organizations, both nonprofit and for profit, including academia, government, and industry. The nominated green chemistry technology must have reached a significant milestone within the past five years in the United States (e.g., been researched,

demonstrated, implemented, applied, and patented). Typically five awards are given annually to industry and government sponsors, an academic investigator, and a small business.

For more information visit: www.epa.gov/oppt/greenchemistry/pubs/pgcc/presgcc.html.

Combined Heat & Power Initiative

EPA New England continues to partner with organizations that promote energy efficiency, such as the Northeast Combined Heat and Power (CHP) Initiative. This group of industries, businesses, and institutions hosts bi-monthly meetings to increase the use of combined heat and power in the Northeast.

For more information contact: John Moskal, EPA Region 1-NE (617) 918-1826, moskal.john@epa.gov; visit www.northeastchp.org.



EPA REGION 2

EPA Region 2 is sponsoring a workshop entitled “Seize the Moment: Opportunities for Green Chemistry and Green Engineering in the Pharmaceutical Industry” to take place on September 27, 2007 at the New York City EPA Region 2 Office (290 Broadway).

The one-day workshop will both educate and offer a dialogue on how to promote green chemistry and green engineering practices to achieve more sustainable outcomes in the pharmaceutical industry.

The one-day workshop will both educate and offer a dialogue on how to promote green chemistry and green engineering practices to achieve more sustainable outcomes in the pharmaceutical industry. Participants from EPA, FDA, industry, and universities will:

- examine the nature and magnitude of the pharmaceutical manufacturing industry’s environmental footprint and discuss opportunities and barriers to improvement throughout the manufacturing process;
- explore ideas on how to better promote green chemistry and green engineering in manufacturing processes within the pharmaceutical industry;
- present the values embodied in green chemistry and green engineering principles and overall thinking and how these values can be integrated into the pharmaceutical industry;
- demonstrate some exemplary industry-based practices of green chemistry and green engineering;
- and showcase exemplary technical approaches, options, tools to improve chemical design, and process efficiency.

For more information contact: Walter Schoepf, EPA Region 2 (212) 637-3729.



NORTHEAST ASSISTANCE & P2 ROUNDTABLE

Common Measures Project Update

NEWMOA’s Common Measures Project is designed to support state efforts to develop and use common measures of environmental performance for one or more business sectors/groups across several NEWMOA member and other states. The purpose is to advance the use of valid statistical methods and measurement tools to enable comparison of performance changes across states resulting from the use of various environmental compliance assurance approaches. The project goals are to:

- Improve the ability of state environmental agencies to develop, implement, and analyze innovative performance measures for targeted business sectors

- Improve the ability of the state environmental agencies to develop and implement innovative compliance strategies, including Environmental Results Projects (ERP)

This project relies on the models of innovative compliance strategies, including ERP and other statistically valid compliance/performance rate approaches already in use by states. By developing and using shared measures, the participating state can evaluate the effectiveness of their own programs and the relative effectiveness of the other states' programs and decide to adopt the more successful compliance assurance approaches used throughout the region. Project objectives include:

- Develop and implement a common, core set of performance measures for business sectors or regulated groups on a multi-state basis;
- Promote the implementation of innovative compliance strategies, including ERP, in the states in the Northeast that have not yet begun these initiatives, including New York; and
- Combine and present the environmental outcome data that is collected from the states using the core performance measures for at least one business sector and analyze and present the results.

Over the past year, the project has provided substantial support and assistance to the participating states, including training on methods of collecting and analyzing data using standard statistically valid approaches.

The Project participants are currently coordinating data collection efforts targeted toward small quantity generators of hazardous waste. The group has agreed upon a set of core performance measures for these entities and is conducting visits to a statistically valid sample to develop a baseline of performance. In 2008 the project plans to have data to begin to share and compare the results of this data collection effort.

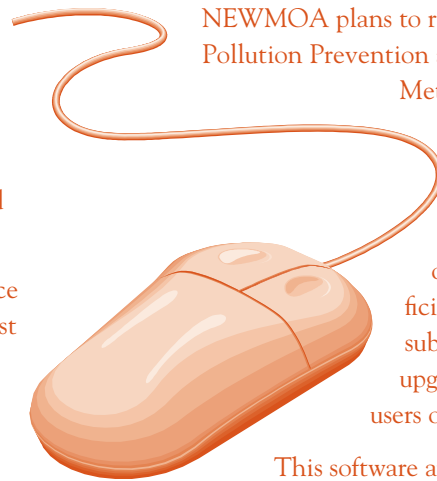
In addition to this regional project, NEWMOA has been providing logistical support to the Environmental Results Project Consortium. This is a national consortium involving 18 states and EPA that was created in October

2006. The coalition of states, EPA, and other interested groups share experiences, expertise, and resources in developing and implementing ERP approaches to more effectively address environmental issues. They plan to launch their website shortly.

For more information contact: William Cass, NEWMOA (617) 367-8558 x301, wcass@newmoa.org; visit www.newmoa.org/hazardouswaste/measure/index.cfm.

Pollution Prevention & Compliance Assistance Metrics Tool Upgrade to Version 3.0

NEWMOA plans to release Version 3.0 of the Pollution Prevention and Compliance Assistance Metrics software tool by the end of 2007. The free tool is available upon request by local, state, tribal, university, and other governmental officials. NEWMOA has made substantial improvements and upgrades at the request of the users of the tool.



This software application contains six major sections for tracking program activities:

- client projects (such as on-site visits and research)
- initiatives (covering a combination of activities)
- grant awards
- educational and outreach materials
- workshop/training events
- responses to information requests

The database application tracks the outcomes associated with many of these program activities, including environmental, behavioral, and economic outcomes. Because each pollution prevention and compliance assistance program is somewhat different in the scope of its activities and its structure, the software can be customized so the programs can use only those components and the level of detail that suit their needs. NEWMOA provides support and training for program staff on the use of the database.

For more information contact: Jennifer Griffith, NEWMOA (617) 367-8558 x303, jgriffith@newmoa.org; visit www.newmoa.org/prevention/metrics/index.cfm.

P2 for Consumers P2Rx™ Topic Hub™

Seemingly small daily choices have a surprisingly large cumulative impact on an individual's finances, time, and

Choices related to food, household operations, home improvements, and transportation can have significant environmental impacts

the environment. Choices related to food, household operations, home improvements, and transportation can have significant environmental impacts. In an effort to

advance the work of assistance providers, local communities, and others working with consumers to promote more sustainable choices, NEWMOA is launching a new P2Rx Topic Hub on P2 for Consumers. The Hub aims to highlight strategies for working with consumers that are proven to be effective at reducing a consumers' ecological footprint. The "best in class" resources related to this work, such as case studies and fact sheets, have been collected and made available through this Topic Hub.

For more information visit: www.newmoa.org/prevention/topichub/toc.cfm?hub=111

Access any P2Rx™ Topic Hub™

Read an overview of the issues

Visit the reference section

NEWMOA P2RX TOPIC HUBS

Search NEWMOA Go!

site map print this page

Visit Another P2Rx™ Topic Hub™

Aerospace

Search

Search Hub References; Browse by Keyword

P2 for Consumers Table of Contents

Welcome to the **Topic Hub™ for P2 for Consumers**. This primer is intended as a quick guide to essential P2 information on p2 for consumers, as well as a compilation of pertinent on-line resources.

Introduction

- Pollution prevention in every day living.

In the Home

- Steps to reduce material, resource, and hazardous chemical use in the home.

In the Yard

- Chemical-free lawn and garden care.

Food

- Environmental impacts of where and how food is produced.

Getting Around Town

- Tools and technologies to reduce the impacts of transportation.

Travel and Recreation

- Low-impact travel, lodging, and recreation.

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- [Complete List of Links](#)

NORTHEAST ASSISTANCE & P2 CALENDAR

TITLE	SPONSOR	DATE / LOCATION	CONTACT
Conditionally Exempt Hazardous Waste Generators Workshops	VT SBDC & VT DEC	September 12, Williston, VT; September 20, Rutland, VT; & September 27, Randolph Center, VT	www.vtsbdc.org
National Conference on Environmental Science & Technology	WMI, US DOE, & NSF	September 12-14; Greensboro, NC	uzo@ncat.edu
National Recycling Coalition Annual Congress & Exposition	National Recycling Coalition	September 16-19; Denver, CO	info@nrc-recycle.org
Solar Power Expo 2007	SEPA & SEIA	September 24-27; Long Beach, CA	www.solarpowerconference.com/
Greening Up Your Bottom Line Conference	VT DEC	September 25; Burlington, VT	www.vbep.org
Green Schools in CT	CTGBC	September 25; New Haven, CT	www.CTGBC.org
P2 through Nanotechnology	EPA	September 25-26; Arlington, VA	meetings@erg.com
North American Conference on Ecotourism	TIES	September 26-29; Madison, WI	www.ecotourism.org
Seize the Moment: Opportunities for Green Chemistry & Green Engineering in the Pharmaceutical Industry	EPA Region 2	September 27; New York City	(212) 637-3729
9th Annual Environmental Performance Summit	The Performance Institute	October 3-5; Arlington, VA	www.environmentalperformance.org
22nd Annual North American Hazardous Materials Conference	NAHMMA	October 8-12; San Diego, CA	www.nahmma.org
BBI Biofuels Workshop and Trade Show	BBI	October 9-11; Portland, OR	www.biofuelsworkshop.com
Global Warming & Energy Solutions Conference	Clean Air - Cool Planet	October 12-13; Manchester, NH	www.cleanair-coolplanet.org
NERC Fall Conference	NERC	October 16-17; Northampton, MA	www.nerc.org/
WasteCon 2007	SWANA	October 16-18; Reno, NV	info@swana.org
Energy in the Northeast	Law Seminars International	October 18-19; Boston, MA	www.lawseminars.com
North American Electronics Recycling Conference	Resource Recycling	October 24-25; Atlanta, GA	www.e-scrapnews.com
Shaping Tomorrow Today, Leadership through Purchasing	MA OSD	October 30; Worcester, MA	www.mass.gov/eppfair
Environmental Monitoring, Evaluation, & Protection in New York: Linking Science & Policy	NYSERDA	November 15-16, 2007; Albany, NY	www.nyserda.org/programs/Environment/EMEP/conferences.asp
Greenbuild International Conference & Expo	USGBC	November 7-9; Chicago, IL	2006.greenbuildexpo.org/
Safe Development of Nanotechnology	MA OTA	November 15; Marlborough, MA	(617) 626-1062
Green Schools Symposium	ERI	December 4-5; Phoenix, AZ	www.educationreporting.com
Symposium on Innovating for Sustainable Results: Integrated Approaches for Energy, Climate & Environment	US EPA	January 7-10; Chapel Hill, NC	www.epa.gov
North American Plastics Recycling Conference	Resource Recycling	February 26-27; Jacksonville, FL	www.plasticsrecycling.com/
Washington International Renewable Energy Conference	US Dept. of State	March 1-7; Washington, DC	www.acore.org/programs/wirec/
19th Annual Nonpoint Source Conference	NEIWPCC	May 19-21; Groton, CT	www.neiwpcc.org
2008 National Environmental Partnership Summit	NPPR	May 19-23; Baltimore, MD	www.P2.org
4th National Product Stewardship Forum	PSI	June 3-5; Boston, MA	www.productstewardship.us
MSWG 2008 Workshop	MSWG	June 16-18; New York, NY	www.mswg.org
Scaling Up: Building Tomorrow's Solutions	ACEE	August 17-22; Pacific Grove, CA	www.aceee.org

For more up-to-date listings of upcoming events, visit www.newmoa.org



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