MnTAP University of Minnesota

SOURCE

2009 Issue 1

Get the most out of your improvement projects

Inside...

Route:

- ☐ health and safety
- ☐ maintenance
- ☐ owner/president
- ☐ process engineer
- ☐ purchasing

The R&E tax credit was implemented in the 1981 to foster U.S. competitiveness in world markets through research, product innovations, and improvements in business and manufacturing processes.

Improvement projects in your facility, including pollution prevention and energy efficiency projects, may qualify for tax credits that can greatly affect your bottom line. The Research and Experimentation (R&E) Tax Credit, also known as the Research and Development (R&D) Tax Credit, can help offset the costs of developing or improving processes or products.

The credit was enacted to encourage innovation while providing incentives for companies investing in new products and processes. This dollar-for-dollar credit is taken in addition to normal deductions for expenses, and is awarded for certain activities that qualify as research and development.

Qualifying for the Tax Credit

Each year, the US government awards more than $8 billion to corporate taxpayers and shareholders of flow-through entities through this credit. The definition of R&D is much broader than people realize, and thus there are companies that are still missing out on this credit because they do not believe what they do is research and development. With a little guidance, many manufacturers can qualify for the tax credit. Pollution prevention and energy efficiency projects that may qualify for the tax credit could include:

- Improving your process to reduce waste
- The staff time spent testing, modifying, and enhancing new capital equipment to streamline your process or reduce your energy use
- Evaluation of using new chemicals that can potentially reduce emissions
- Researching ways to reuse water or raw materials in the process rather than discarding them as waste
- LEAN and Six Sigma projects

Taking Advantage of the Tax Credit

If your facility is doing R&E activities, but has not taken advantage of the credit, it may be time to determine if you qualify. The following four steps may help identify if your facility qualifies and will benefit from the credit.

Step 1: Evaluate What You Do

A wide range of business activities and projects can qualify for the credit, including numerous aspects of pollution prevention or energy efficiency projects. The goal of an evaluation is to develop a list of projects and determine if those projects meet the qualification criteria for the credit.

Step 2: Assess Potential Expenditures

The second step is to assess the potential expenditures for qualifying projects and the documentation you have to support your claim. These costs include internal labor such as direct research, direct supervision of research, direct support of research, supply costs, and external labor.

Step 3: Quantify Qualifying Activities

What is valuable to your company may be meaningless to another company. You must determine if your qualifying activities would produce a meaningful tax credit. Companies with revenues of as little as $2 million may be able to generate a meaningful tax credit.

Step 4: File for the Tax Credit

If you have passed through the first three steps, it is time to fill out the tax credit form, calculate your credit, and, if appropriate, amend prior tax returns to claim credits from past years. Typically, you can file amended tax returns for the past three years.

Getting the Help You Need

To apply for the R&E tax credit, it is critical that you work with someone with experience in the credit. Recent IRS audit guidelines emphasize the importance of solid documentation. If your accountant does not have this experience, find a specialist who does. A specialist will help catch you up from past years and put a methodology in place for the future. You will want to involve your accountant in the process to help continue your R&E methodology in the future. Two specialists in Minnesota, TCS Consulting and Black Line Group, are featured on Page 2. ■

Credit reaps big benefits for cabinet maker

Crystal Cabinet Works in Princeton, Minnesota, worked with Black Line Group to realize a tax credit in excess of $300,000. The company, a custom cabinet maker, has been manufacturing high-quality cabinets for more than 60 years.

The company's Chief Administrative Officer was curious about the R&E Tax Credit and believed that the company would qualify. However, the company's accounting firm did not have specialized expertise in the credit. After two years of discussing and thinking about the credit, the accounting firm recommended that Crystal Cabinet Works consult with the Black Line Group to determine if the firm was indeed eligible.

The Project

The Black Line Group began working with Crystal Cabinet Works to determine if the company was a good fit for the credit. After some preliminary information gathering, it was determined that the company would benefit from the tax credit as many of the projects completed would qualify. Black Line Group then gathered more in-depth information about the company's processes and projects. A substantial amount of this information was obtained through interviews with various working groups within the company.

Following the information gathering, Black Line Group produced a portfolio of documentation regarding qualifying projects and Qualified Research Expenditures (QRE's). This portfolio is essential to Crystal Cabinet Works should they undergo an IRS audit. Black Line Group then worked with Crystal Cabinet Works' accountant to apply for the tax credit in the current and prior open tax years. Ultimately, the company qualified for over $300,000 in tax credits. In the future, the company has a roadmap designed by Black Line Group to continue filing for the tax credit on their own. ■

For More Information

For more information about the companies featured in these case studies as well as the R&E tax credit, please contact:

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Stern Industries finds high returns from the R&E Tax Credit

Stern Industries of Baxter, Minnesota, is a plastics and rubber manufacturing company that uses a wide range of production methods including injection molding, rotational molding, blow molding, extrusion, thermoforming, and UHMW technologies. Stern provides a customer-focused design, engineering, and manufacturing service.

Stern's CEO believed the tax credit could potentially result in a high return for the company. However, he had two concerns: not having a feel for the potential dollar available and not being comfortable with the documentation requirements. Therefore, he turned to TCS Consulting, a consulting firm led by engineers who specialize in the credit. While not involved in this particular project, TCS often partners with Christianson & Associates, PLLP, a CPA firm with the R&E tax credit experience needed to handle the accounting and legal aspects.

The Project

TCS first conducted a feasibility study to identify a number of large projects done over the past three years and to develop estimates of the potential expenses related to each project. TCS also conducted a training seminar for production and technical staff to help them understand the broad spectrum of their project work which qualifies for the credit.

After analysis and verification, the estimated potential return for a full documentation project was in excess of $130,000. The company then worked on documenting projects and submitting them for the credit. A partial listing of projects and their potential return is included below. ■

Project Type	Description	Potential Return
Product Design	Design and test a fuel tank assembly; provide assembly, quality control and supply chain management.	$18,000
	Design and develop manufacturing process for a new gate valve wedge assembly.	$98,000
Software Implementation	Develop a new database solution for ERP, materials management, scheduling, project tracking, etc.	$15,000
New Process Development	Design and implement a new blow molding process. Implement quality control and supply chain management.	$43,500
	Design and startup of a rotomolding capability.	$27,000

Awards recognize pollution prevention efforts

The Governor's Award for Excellence in Waste and Pollution Prevention recognizes public and private organizations that go beyond traditional waste management practices, demonstrating a superior commitment to waste and pollution prevention, and resource conservation. This award is given annually by the Governor and the Minnesota Pollution Control Agency. This year there were 29 applicants in three categories: business/non-profit, government (MnGREAT), and partnerships. The winners were selected by panels of volunteer judges. The following 2008 award winners reduced their environmental impact and continue to serve as leaders in the community.

Business/Non-Profit

Children's Dental Services

Children's Dental Services (CDS) is a private, non-profit corporation that provides dental care to low-income children. When CDS expanded their primary clinic, they incorporated best management practices to reduce the environmental footprint. CDS also only purchases non-toxic cleaners and disinfectants, and voluntarily uses amalgam separators and silver recovery units. Annual reductions total 1,000 gallons of water, 1,200 kWh of energy, 25 pounds of hazardous waste, and 1,000 pounds of solid waste for a total cost savings of approximately $7,000 and a payback of approximately 6 years.

Lubrication Technologies, Inc.

Lubrication Technologies developed a product, Ford Sludge Remover (FSR), for Ford Motor Company that would reduce volatile organic compound (VOC) emission levels incurred from paint booth cleaning. FSR can reduce VOC emissions by 87% and costs by 80%, making it a high value, long term solution. The total annual reductions include 72,000 pounds of hazardous waste and 173,000 pounds of VOC emissions for a total cost savings of approximately $200,000.

Government (MnGREAT)

Carver County: Innovative Approach to Collecting and Composting Organics

The Carver County organics project has given residents in select areas of Carver and Hennepin Counties an opportunity to divert organics from the waste stream. Carver County was the first public entity in Minnesota, not using an organized hauling system, to propose implementing a program that would improve collection costs by combining residential source-separated organics with yard waste. It was also the first public entity in Minnesota to propose a separate designation for composting facilities that manage source-separated organics. In 2007, 124 tons of organic material was diverted from the landfill.

Dakota County: Dakota County Farmland and Natural Areas Program

The Dakota County Farmland and Natural Areas Program (FNAP) is a multi-year project addressing citizen concern over the loss of open space in the rapidly growing county. The FNAP protects farmland and natural areas through acquisition of permanent conservation easements or fee title from willing landowners. The program prohibits future development of the land, reduces non-point source pollution to water bodies, and improves overall environmental stewardship. With the adoption of the program guidelines, a total of 56 land protection projects totaling 6,000 acres have been approved by the County Board. The FNAP has protected approximately 36.6 miles of land along lakes, ponds, rivers, and creeks. The County's investment of $16 million has leveraged an additional $57 million of non-County funding and landowner donation for pollution prevention associated with permanent land protection.

United States Postal Service, Duluth Auxiliary Vehicle Maintenance Facility

The Duluth Auxiliary Vehicle Maintenance Facility is a small vehicle maintenance shop that worked to eliminate all hazardous waste generation, recycle all available materials and eliminated some waste streams outright. Solid waste being generated from the facility has gone from approximately a cubic yard per day to less than half a cubic yard per week and the cost of chemicals has been reduced through purchasing in bulk. They have reduced their hazardous waste disposal costs to zero, reduced their solid waste trash bill, and generated revenue from recycling.

see AWARDS page 6

Evaluation Criteria

Each year, an independent committee comprised of environmental experts from a variety of backgrounds reviews eligible applications.

Projects are typically evaluated on the following criteria:

- Benefits to the environment
- Economic efficiency
- Level of commitment and leadership in pollution prevention
- Innovation
- Ability to serve as a model for others (transferability)

For more information, visit MPCA's Web site <www.pca.state.mn.us/oea/p2/govaward.cfm>.

Energy conservation opportunities available for

As energy costs, both economic and environmental, continue to rise, it is important to look for opportunities to conserve energy. Fortunately, there are numerous opportunities available to work with your utility to help reduce energy costs by increasing energy efficiency. In this article, energy efficiency opportunities for two industrial sectors (metal casting and chemical manufacturing) are highlighted. Minnesota's manufacturers can evaluate these opportunities to take steps toward becoming more energy efficient. The opportunities in this article were identified through recent studies (see Industrial Energy Study box, left).

Industrial Energy Study

As part of larger industrial energy efficiency studies for Xcel Energy and CenterPoint Energy, MnTAP examined the energy consumption and potential savings for the chemical manufacturing and metal casting industrial sectors in Minnesota.

While completing this study, MnTAP analyzed sub-sectors to identify energy efficiency opportunities that facilities could implement and utilities could support. Sub-sectors were ranked by energy use and consumption; the top ten sub-sectors were evaluated based on energy consumption plus energy reduction potential and opportunities for achieving reductions. Ultimately, MnTAP recommended sub-sectors for each utility that could potentially engage in significant energy saving opportunities.

Metal Casting

Metal casting facilities commonly engage in smelting and refining ferrous and non-ferrous metals from ore or scrap feedstocks and also process metals by casting or otherwise forming various manufactured metal products. Energy use is significant in metal casting facilities. The entire metal casting industrial sector uses energy in processes such as melting, alloying, heating, and producing metal products.

Through MnTAP's research, conservation opportunities have been identified for aluminum operations and iron operations. However, the sector has some significant process similarities that make the following energy conservation opportunities applicable across the entire sector.

Melting Systems

Melting and molten metal holding technologies comprise a large portion of energy consumption in the primary metals industry. Different types of melting furnaces have differing degrees of efficiency that affect the degree of metal loss and thermal efficiencies.

Electric melting has some overall advantages in higher thermal efficiencies and in lower metal melt loss. Combustion inefficiencies, exhaust waste heat loss, and combustion and oxidation contaminants in the form of dross and slag metal melt loss can contribute to fuel-fired furnace inefficiencies and missed opportunities for thermal recovery. Nonetheless, fuel-fired furnace equipment operations can effectively employ a variety of procedures and methodologies that can lead to some significant energy savings estimates. Additional fuel-fired melting system opportunities includes:

- Insulation integrity and maintenance
- Proper metal furnace charging and fluxing procedures
- Process flow optimization
- Ladle preheating
- Burner tuning
- Furnace and ladle covers
- Waste heat recovery technologies like recuperative and regenerative heat exchangers or combined heat and power applications

Computer Modeling

An industry-led effort to use computer modeling to improve the efficiency of the primary metals casting process is currently underway. Computer models optimize the design of the product configuration so little excess metal is needed and the design accounts for metal flow peculiarities that can result in part defects, hence wasted energy and scrap. Optimized production benefits energy optimization.

Chemical Manufacturing

In general, facilities engaged in chemical manufacturing in Minnesota produce ethanol or manufacture pharmaceuticals, resins, abrasives, perfumes/cosmetics, agricultural chemicals, adhesives, organic dyes, or surface cleaning products. Although the finished products may differ within this sector, sub-sectors identified through this study have significant needs for process heating and emissions control and destruction.

Specific opportunities were identified for ethanol facilities, pharmaceutical manufacturers, and resin manufacturers. However, there are a number of common energy conservation opportunities for many chemical manufacturers.

Process Controls

A significant opportunity for energy conservation is process control optimization. If plants are manually controlled, it is common practice to be operated well within the company's product specifications. Chemicals can be over-processed, resulting in increased time and energy required to manufacture the product. Automating simple tasks can yield significant

chemical manufacturers and metal casters

energy savings because process operators are less effective at routine control tasks than a control system is. Another process control issue involves scheduling and shut down of equipment which is not being used or idle for long periods of time. It is estimated that improving process controls could save 2 to 4% of electrical energy use.

Thermal Oxidizers

Upgrading thermal oxidizers in chemical manufacturing facilities can result in reductions of fuel use. Such improvements include installing a new burner and valves, refurbishing insulation, and installing an automatic burner management system to maintain efficient combustion. When upgrading, regenerative thermal oxidizers are more efficient than recuperative thermal oxidizers and should be evaluated. Additionally, recuperative catalytic oxidizers and regenerative catalytic oxidizers can further reduce fuel use. Retrofitting thermal oxidizers to include a catalytic system lowers the operating temperature and reduces fuel use up to 50%.

Boiler Upgrades

Similarly, boiler upgrades such as installing new or refurbished burners, O_2 trim control, and a burner management system can decrease fuel energy use. Installing a heat recovery system is another option. Such systems pull excess heat from anywhere there is heat: a thermal oxidizer, boiler exhaust, burner exhaust, dryers, or even cooling towers. Energy efficient burners should be able to maintain a stable flame at low oxygen levels throughout the firing range.

Combined Heat and Power (CHP)

CHP provides an opportunity for a number of facilities looking to reduce overall energy consumption. This technology generates electricity on-site and recovers waste heat from the electrical generation for production. Using CHP to produce electricity on-site can result in 80% efficiency while using relatively little additional fuel over current thermal demand.

Conservation Opportunities for Both Sectors

Improvements to process motors, pumps, and fans, as well as compressed air systems can lead to energy savings for both chemical manufacturers and metal casting facilities.

Process Pumps, Fans, and Motors

Many chemical manufacturing facilities have makeup air and ventilation systems in place to comply with a safe workplace environment and to control emissions of dust and other air contaminants. Several resources discuss the evaluation and proper sizing of pumps, fans, and electric motors. The Industrial Technologies Program within the Energy Efficiency and Renewable Energy Office at the Department of Energy has sourcebooks available that discuss efficient design factors such as variable frequency drives and maintenance suggestions. Improvements to pump, fan, and motor components could conserve up to 8% of electrical energy use.

Compressed Air Systems

Compressed air systems can account for up to 25% of electrical energy use. There are a number of common energy conservation opportunities for any compressed air system. These opportunities include:

- Leak identification and repair
- Pressure reduction
- Control multi-compressor system operation
- Reduce or eliminate inappropriate uses
- Reduce or eliminate humidity performance problems
- Increase receiver storage capacity
- Waste heat utilization

More costly solutions include sequencing and flow controls, variable speed compressors to handle variable loads, and proper sizing and distribution of the compressed air system. Depending on system complexity, compressor system energy efficiency can be improved by as much as 20-50%.

Moving Forward

The industrial sector analysis work is one step MnTAP and numerous utilities in Minnesota are taking to provide energy efficiency assistance to industrial users. MnTAP can provide additional resources on the opportunities identified in this article to help save money and improve the environment. ■

CenterPoint Energy offers rebate program

CenterPoint Energy offers its industrial customers a rebate program to help offset the cost of installing higher efficiency equipment for greater energy savings and a healthier bottom line. Currently, CenterPoint is offering rebates for boiler systems, boiler tune-ups, carbon monoxide controls, furnaces and unit heaters, infrared heaters, and water heaters. Additionally, the utility offers a custom rebate program that is designed for the unique equipment needs of commercial and industrial manufacturing customers. For more information on CenterPoint's rebate program, visit <www.centerpointenergy.com>.

Seven companies set to host MnTAP interns

Intern Presentations

Mark your calendars to hear how the 2009 MnTAP interns helped their companies prevent pollution and increase energy efficiency. The presentations will be held at the University of Minnesota on Friday, August 21, 2009, at 9 a.m.

In summer 2009, seven Minnesota companies will be hosting MnTAP interns who will be developing solutions to industrial waste problems. This year, four of the seven projects will either partially or fully address facility energy use. Overall, the interns will be responsible for developing effective waste reducing solutions to help their facilities save operating costs, reduce regulatory compliance burden, and decrease their environmental impacts. The following companies are participating in the 2009 MnTAP intern program.

- Oak Hills Living Center, New Ulm. The intern at this assisted living center will investigate the use of an automatic dispensing system to reduce waste and medication error.
- Siemens Water Technologies, Roseville. This facility would like to reuse water; the intern will determine what is feasible and quantify the water available for reuse.
- Johnson Screens, New Brighton. An intern will evaluate water recycling and the compressed air system.
- Roberts Automatic, Chanhassen. The intern will work to reduce hazardous waste and potentially eliminate the use of a hazardous chemical.
- Northern Iron and Machine, Saint Paul. The project at this foundry includes a motor inventory and waste heat assessment.
- Fairview Medical Center, Minneapolis. An intern at Fairview will work with the green team and evaluate the potential of implementing reusable gowns.
- Lou-Rich Inc., Albert Lea. The MnTAP intern will examine ways to eliminate zinc from the wastewater.

For more information about the MnTAP intern program and the presentations, visit MnTAP's web site at <www.mntap.umn.edu> or contact Krysta Larson, 612.624.1300. ■

Excellence in pollution prevention recognized with awards

AWARDS from page 3

Partnership

Great River Energy's Green Building and Corporate Recycling Initiatives

Great River Energy (GRE) worked with Tegra Group, McGough Construction, Dunham Engineering, and Perkins & Will Architects to construct three projects which are all pursuing Leadership in Energy and Environmental Design (LEED) certification. GRE recently completed their new world headquarters, which is projected to be certified platinum LEED. In addition, GRE has an aggressive recycling program. Their total annual savings include 1,600,000 gallons of water, a 50% reduction of energy, and 7,400,000 pounds of solid waste, for a total cost savings of approximately $89,000 per year. Payback for the project will be approximately 7 years.

Project Green Fleet

Minnesota Environmental Initiative, Minnesota Chamber of Commerce, and Minnesota Center for Environmental Advocacy partnered to reduce diesel emissions and children's exposure to diesel exhaust by installing EPA-verified pollution control equipment on school buses throughout the state and providing anti-idling education to the school districts that receive the equipment. This is the first statewide voluntary, non-profit driven program in the nation to address this type of problem. As of December 2007, 500 school buses had received the equipment; it is estimated that these retrofits have reduced emission exposure to 30,000 school children. The total annual emission reduction for the 500 buses is 8,000 pounds.

SECIA's Air Pollution Reduction Project

Southeast Como Improvement Association (SECIA) collaborated with Ritrama, Inc., Waldorf Corporation (Rock-Tenn), and Greatbatch to reduce air pollution. SECIA entered into good neighbor agreements with all three partners. Ritrama installed thermal oxidizers to reduce their hazardous emissions by 92%. Rock-Tenn reduced 1,200 tons of VOC emissions, 520 tons more than the facility pledged. In addition, they have also been reducing energy use and have saved up to $170,000 annually from insulating steam and condensate lines. Greatbatch focused on reducing their trichloroethylene (TCE) emissions by reducing solvent use, redirecting air conditioning, and purchasing new chillers. Once Greatbatch completes all of these projects, they will realize approximately a 90% reduction in TCE emissions. Cumulatively, this air pollution project has reduced hazardous air emissions by 1,399 tons, which is a 90% reduction by the three industries. ■

Materials Exchange

The Minnesota Materials Exchange program lists one company's unwanted material and makes it available for use by another company. For more information, call MnTAP at 612.624.1300 or 800.247.0015.

What is Materials Exchange?

The Materials Exchange is a free service that links organizations that have reusable goods they no longer need to those who can use them. This business reuse network helps prevent usable materials from becoming waste and saves users money.

2008 Accomplishments

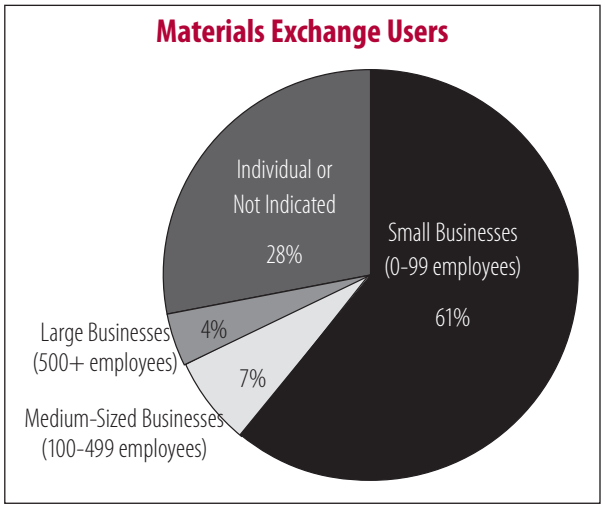
Materials exchange staff responded to 254 calls and helped facilitate 19,758 Web self-referrals to the online database. Web site and database support continued (with ongoing enhancements) for the eight local exchange sites: St. Louis County, WLSSD, West Central, North Central, Chisago County, Otter Tail County, Southwest, and Southeast.

Use of the materials exchange at all Alliance sites resulted in a total of 335 exchanges of 509,618 pounds (254 tons) of solid and hazardous material. Three new continuous exchanges were added in 2008 and saved the companies $347,926 in avoided purchase and disposal costs. MnTAP-covered areas of the state accounted for 88% of the total number of material exchanges, 32% of the total weight of materials exchanged, and 32% of the cost savings documented.

The top four material categories exchanged includes pallets, containers, furniture, and electronics. Materials exchange is utilized by various types of organizations with the greatest number in the commercial services sector including retail, offices, real estate, recyclers, dry cleaners, and others. During 2008, approximately 56% of users were located in the metro area and 44% of users were outside the metro area.

The twice monthly e-mail containing the newest listings continues to be a popular service. Currently, the e-mail is disseminated to 4,115 e-mail addresses and this number grows each year.

MnTAP continues to support the eight statewide local exchanges through the Minnesota Materials Exchange Alliance by maintaining the Web site and database, verifying listings, sending tracking reports to the Alliance sites regarding who looked at their listings, and compiling quarterly exchange reports. MnTAP and the local exchanges maximize personal contacts to facilitate exchanges.



Future Plans

- Continue to expand the use of the "new listings e-mail update"
- Improve the successful exchange reporting system
- Continue to support and grow Alliance sites
- Survey current materials exchange users to identify potential areas of improvement
- Increase the number of users in areas not currently served by the Alliance
- Increase the number of solid waste on-site assessments

Got an Exchange?

Please tell us about your success. We track successes to promote the Minnesota Materials Exchange program to others and to highlight the value of the program. Visit the Web site or call to report your success. ■

Help us reduce our impact

If half of the subscribers to the *Source* newsletter opted to receive their pollution prevention and energy efficiency news online rather than in printed form, we could reduce our annual environmental impact by:

- 1,500 lbs. CO_2
- 4,300 gallons of water
- 500 lbs. solid waste

Subscribe today to receive future issues of the *Source* via e-mail. Simply send your e-mail address to mntap@umn.edu. Past issues of the *Source* are available online at <www.mntap.umn.edu>. ■

MINNESOTA TECHNICAL ASSISTANCE PROGRAM

UNIVERSITY OF MINNESOTA

helping businesses implement industry-tailored solutions that maximize resource efficiency, prevent pollution and reduce costs and energy use

The Minnesota Technical Assistance Program (MnTAP) helps businesses and industries develop and implement industry-tailored solutions that maximize resource efficiency, prevent pollution and reduce costs and energy use to improve public health and the environment. As an outreach program at the University of Minnesota, MnTAP provides free technical assistance tailored to individual businesses. By reducing waste and increasing efficiency, companies save on disposal and raw-material costs and make working conditions healthier and safer for employees.

MnTAP is funded primarily by the Minnesota Pollution Control Agency's Prevention and Assistance Division and is located at the University of Minnesota in the School of Public Health, Division of Environmental Health Sciences.

This newsletter is printed with low-VOC agri-based inks on 100% post-consumer recycled, process chlorine-free (PCF) paper.

Calendar

April 21, 2009. **Greening Your Business Expo**. Mill City Museum, Minneapolis, Minnesota. 5:00 - 7:30 p.m. At this event you will learn how green products and services can help your business be environmentally friendly and save on energy and other expenses. To register, call 612.370.9100.

April 21, 2009. **Green is Cool: Nurses Reducing Waste at Work**. Davannis Pizza, Golden Valley, Minnesota. 6:30 - 8:00 p.m. This meeting will focus on educating nurses regarding the environmental impacts of health care operations and provide information and tools for pollution prevention. Call 952.920.9860 for more information

April 23, 2009. **Business Sustainability: It's Not Perception, It's Profitability**. Crowne Plaza Hotel, Saint Paul, Minnesota. 7:30 a.m. - 1:30 p.m. Learn how you can implement sustainability practices to save costs, improve productivity, and attract customers and future employees. Call 651.292.4699 for more information.

April 29, 2009. **The Next Generation of Lean.** Elk River City Hall, Elk River Minnesota. 8:00 - 11:00 a.m. Competing and winning today in business requires foresight that includes Green and Lean to create strategies that deliver clear, measurable, and rapid returns. Come learn how today's successful organizations are combining Lean and Green practices to improve productivity, competitiveness and opportunities for growth. To register, visit <www.enterpriseminnesota.org/Business-Events.aspx>.

May 4 - 7, 2009. **2009 National Environmental Partnership Summit: Harnessing the Power of Collaboration.** Hyatt Regency, San Francisco, California. The Environmental Partnership Summit is an interdisciplinary gathering of environmental professionals and assistance providers from diverse sectors all over the country and world. <www.environmentalsummit.org>.

For more information, visit MnTAP's online calendar at <mntap.umn.edu/resources/cal.htm>.

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