



2010 Environmental Benefits Report

Minnesota Technical Assistance Program

Submitted to the Minnesota Pollution Control Agency

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About MnTAP

The Minnesota Technical Assistance Program (MnTAP) is an outreach and assistance program at the University of Minnesota that helps Minnesota businesses develop and implement industry-tailored solutions that prevent pollution at the source, maximize efficient use of resources, and reduce energy use and cost to improve public health and the environment.

Discovering a need for waste reduction and pollution prevention assistance, the Minnesota Legislature amended the Waste Management Act in 1984 to “provide for the establishment of technical and research assistance for generators of hazardous and industrial waste in the state.” The Minnesota Toxic Pollution Prevention Act, enacted by the Legislature in 1990, directed the then Minnesota Office of Waste Management (OWM) to “establish a pollution prevention assistance program” for all persons in the state using, generating, or releasing toxic pollutants, hazardous substances or hazardous wastes. Today, the Minnesota Pollution Control Agency (MPCA) provides that assistance primarily by providing funding to the University of Minnesota, School of Public Health, Environmental Health Sciences Division for MnTAP.

Pollution prevention technical assistance is tailored to individual businesses through a number of services including site visits, student interns, materials exchange, facilitated teams, workshops, and industry specific resources. Since MnTAP’s inception in late 1984, staff members have conducted over 3,500 site visits to small and large businesses, both manufacturing and service, in all parts of the state. These visits help businesses preserve Minnesota’s natural environment through pollution prevention measures.

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Executive Summary

In 2010, MnTAP successfully helped several businesses identify and implement pollution prevention and energy efficiency projects. This work was, and continues to be, driven by MnTAP's mission to help Minnesota businesses maximize resource efficiency, increase energy efficiency, prevent pollution, and save money.

Highlights of the impact of MnTAP services during 2010 include:

- On-site work (site visits, teams, and interns) resulting in the reduction of 105,000 pounds of waste, 17 million gallons of water, 3.5 million kWh, 300,000 therms, and over \$1.2 million.
- Coordinating the Materials Exchange enabled users to save \$82,000 in purchase and disposal costs and divert over 57,000 pounds of waste from landfills.
- Communicating with clients through events, presentations, and online and printed documents.

On-Site Work

Site Visits & Teams

One-on-one assistance to find specific solutions

- Reduced **22,000 pounds** of waste
Equal to 110 refrigerators
- Conserved **11 million gallons** of water
Enough to fill 16.5 Olympic swimming pools
- Reduced **1.2 million kWh** and **160,000 therms**
Equal to 1,662 metric tons of CO₂ equivalent or the CO₂ emissions of 318 vehicles
- Saved companies **\$600,000**

Intern Program

Student employees to identify and research solutions

- Reduced **83,000 pounds** of waste
Equal to about 4 school buses
- Conserved **6.3 million gallons** of water
Enough for one day for each resident in Lakeville
- Reduced **2.3 million kWh** and **146,000 therms**
Equal to 2,382 metric tons of CO₂ equivalent or the CO₂ emissions of 456 vehicles
- Saved companies **\$633,000**

Materials Exchange

Linking organizations with reusable goods with those who can use them

- Diverted **57,000 pounds** of waste from landfills
Equal to 3,800 15-pound bowling balls
- Saved **\$82,000** in purchase and disposal costs

Client Communications

Providing information in various forms to share success stories and proven solutions

- Reached **1.8 million hits** to the MnTAP Web site
- Developed **8 new publications** and **3 newsletters**
- Participated in over **30 events**

MnTAP Results Over Five Years Including Materials Exchange

	2006	2007	2008	2009	2010	5 Year Total
Waste (lbs/yr)	15,663,000	1,809,000	1,469,000	4,365,000	163,000*	10,742,000
Water (gal/yr)	8,079,000	4,449,000	69,917,000	5,687,000	17,412,000	105,544,000
Energy (kWh/yr)	1,376,000	10,291,000	6,257,000	1,175,000	3,520,000	22,619,000
Energy (therms/yr)	17,000	477,000	292,000	37,000	307,000	1,130,000
Cost Savings (\$)	2,265,000	1,807,000	1,676,000	998,000	1,312,000*	8,058,000

* denotes a change in Materials Exchange accounting procedures, effective 2010.

Targeted Assistance in 2010

Energy Efficient Technologies

- Initiated a statewide industrial energy efficiency roadmap by conducting a research study of energy savings potential for eight investor-owned utilities
- Conducted 3 trainings, 16 assessments, and 3 technology demonstrations of energy efficient technologies
- Developed and expanded utility partnerships for special projects
- Incorporated energy efficiency solutions into site visits, grant projects, intern projects, and teams
- Identified opportunities to incorporate energy efficiency into the Lean framework

Sector-Specific Assistance

- Developed significant pollution prevention resources including Web pages, assessments, and webinars for **non-hospital healthcare facilities**
- Conducted site visits of local **marinas** and worked with the Midwest Marina Association on a Clean Marina program
- Developed site visit protocols and began developing energy benchmarking for **hotels** to set a basis for a green hotel certification program
- Built relationships with **metal fabricators**, conducted site visits, held technology demos, and sponsored an intern

Future Plans for MnTAP

As MnTAP looks to the future, both short- and long-term, we realize the need to maintain our reputation as experts in pollution prevention and industrial energy efficiency. Therefore, we must stay abreast of new opportunities and challenges.

Specific plans to implement in 2011 include:

- Define MnTAP's role in green chemistry and design initiatives in Minnesota.
- Expand the use of company-based teams for identifying and implementing pollution prevention and energy efficiency opportunities.
- Develop appropriate partnerships for collaboration in new and emerging service areas.
- Expand the intern program to include more utility funding, add semester-long internship opportunities, and reach more facilities.
- Reinvest in the Materials Exchange program to implement a new web structure, develop new marketing and outreach activities, and recruit partners to participate in the program.

Links to MPCA Strategic Goals

Objective R2c)

By January 1, 2013, technical assistance at specific facilities will reduce the amount of pollution generated by 10% from 2009 levels.

Activity: Site visits and intern projects

Objective A1d)

Reduce overall emissions of volatile organic compounds (pollutants that are toxic and contribute to ozone formation) by 20% from 2002 levels by January 1, 2012, and 30% by January 1, 2018.

Activity: Outreach and assistance to businesses to reduce VOCs and HAPs

Objective A3b)

Reduce GHG emissions by 15% from 2005 levels by January 1, 2015, and by 30% by January 1, 2025 as set in the Next Generation Act of 2007.

Activity: Industrial energy efficiency services to businesses

Objective W3b)

Wastewater National Pollutant Discharge Elimination System facilities do not contribute to impairment or degradation of state waters.

Activity: MMP and PMP development and implementation assistance to POTWs and industrial users



2010 Projects At a Glance

Project & Funding	Highlighted Activities
Minnesota Technical Assistance Program (primary funding) <i>Minnesota Pollution Control Agency</i>	Conducted on-site work, coordinated a reuse program, and maintained client communications, with the focus of helping Minnesota's businesses reduce pollution, energy use, and costs.
Researching Energy Conservation Potential <i>Mn Dept of Commerce, Office of Energy Security</i>	Researched industrial energy efficiency opportunities and developed reports to help set the stage for major industrial energy conservation efforts within the State.
Implementing an Industrial Energy Efficiency Program <i>U. S. Department of Energy, Mn Dept of Commerce</i>	Held trainings, coordinated DOE assessments, and hosted technology demonstrations. Companies engaged in the project have already implemented over \$200,000 in energy savings.
Industrial Energy Efficiency <i>Xcel Energy</i>	Placed four interns in Xcel Energy customers to identify and implement energy conservation measures. The companies have already implemented over \$250,000 in energy savings.
Pollution Prevention and Energy Efficiency for the Lodging Sector <i>U.S. EPA Region V</i>	Developed a project to conduct on-site assessments at 28 properties and complete a full benchmarking report of each facility's utility use.
Pollution Prevention and Energy Efficiency for the Metal Fabrication and Machining Sector <i>U.S. EPA Region V</i>	Worked one-on-one with metal fabricators. Implementation has saved companies nearly \$90,000 and reduced 11,000 lbs of waste, 4.6 million gallons of water, 1.4 million kWh, and 4,000 therms.
Pollution Prevention Opportunity Assessments and P2 Plan <i>Mn Dept. of Military Affairs</i>	Addressed 32 different sources of wastes and efficiencies for the Minnesota Army National Guard in a plan to be used throughout the 80 Guard facilities in Minnesota.
Pollution Prevention for Non-Hospital Healthcare Facilities <i>MPCA (U.S. EPA Region V)</i>	Partnered with MPCA to provide regulatory and pollution prevention information to non-hospital healthcare clinics in Minnesota and developed 46 new informational documents including a Web site, online assessments, and presentations.
Lean & Energy <i>Center for Energy & the Environment</i> Green Manufacturing for Sustainability Enterprise Minnesota (DEED)	Focused on providing clients with best practices, Lean principles, and Kaizen events to encourage implementation of energy efficiency and pollution prevention opportunities.



MPCA-Funded Activities

MnTAP staff members conducted on-site work, coordinated a reuse program, and maintained client communications to develop solutions for Minnesota’s businesses to reduce pollution, energy use, and costs.

Sector: Minnesota businesses

Amount: \$880,000

Project Period: 1/1/10 - 12/31/10

Throughout 2010, MnTAP staff members provided technical assistance to Minnesota businesses and other organizations by:

- Providing on-site assistance
- Coordinating a reuse program
- Communicating pollution prevention and energy efficiency information with clients

On-Site Assistance

Three methods are routinely used by MnTAP to encourage implementation of solutions at facilities: site visits, interns, and teams. These methods of providing assistance result in the most implementation as MnTAP staff are able to spend more time with each facility understanding processes and opportunities.

In 2010, MnTAP staff members conducted over 330 site visits at more than 120 unique facilities. Additionally, MnTAP placed eight students in companies during the summer of 2010 and facilitated six company-led teams.

The companies that participated in the intern program for 2010 are listed in the table below. Of the eight interns, three primarily addressed pollution prevention opportunities, while the other five focused on energy efficiency. The interns in 2010 identified over \$1.7 million in savings. MnTAP staff members conducted follow-up with past intern companies to identify implemented recommendations. The companies who hosted interns between 2006 and 2010 implemented projects that resulted in over \$660,000 in first-year savings.

2010 Intern Project Descriptions and Projected Savings

Company	Modification Type	Projected Annual Reduction	Proj. Annual Savings
3M Co.	Procedure changes	3,374,000 kWh & 582,000 therms	\$580,000
ConAgra Foods	Equip. & procedure changes	1,082,437 kWh	\$70,356
Cons. Precision Products	Equipment changes	1,276,190 kWh	\$146,224
General Mills	Equipment changes	3,580 lbs waste	\$27,100
Malt-O-Meal Co Inc.	Equip. & procedure changes	26,300,000 gal. water 7,070,000 kWh & 137,480 therms 10,560 lbs waste	\$449,720
ME Elecmetal	Equip. & procedure changes	1,511,954 kWh & 184,530 therms	\$335,116
Melrose Dairy	Equip. & procedure changes	57,750 lbs waste	\$75,050
Valley Craft Inc.	Equip. & procedure changes	13,450 lbs waste 118,300 kWh & 27,710 therms 612,890 gal water	\$51,280
		85,340 lbs waste 26,912,890 gal water 14,432,881 kWh & 1,021,865 therms	\$1,734,846

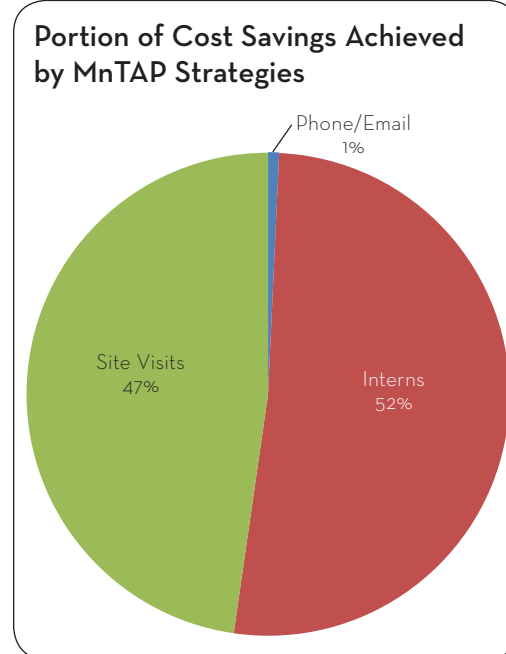
On-Site Assistance (Cont.)

Site visits resulted in approximately \$600,000 of cost savings to companies and identified significantly more cost savings available. Follow-up to site visits will continue to encourage and assist with implementation.

The largest percentage (52%) of total cost savings achieved by companies MnTAP worked with can be attributed to intern projects from 2006-2010. Follow-up to projects indicate that companies are still implementing recommendations. Staff members will follow-up and work with intern companies until projects are complete.

Implementation from On-Site Work

	Waste (lbs)	Water (gal)	Energy		Costs (\$)
			(kWh)	(therms)	
2010	105,552	17,411,650	3,520,079	307,210	1,228,988
5 year total	10,742,107	105,544,281	22,619,224	1,130,355	5,298,190



Reuse Program

In 2010, companies that used the Minnesota Materials Exchange saved \$82,850 in disposal and purchase costs, and helped divert over 57,000 pounds of reusable goods from the landfill.

In coordinating the program, materials exchange staff responded to 172 calls and emails and helped facilitate 7,594 Web self-referrals to the online database. Web site and database support continued for the eight local exchange sites: St. Louis County, WLSSD, West Central, North Central, Chisago County, Otter Tail County, Southwest, and Southeast.

The twice monthly email containing the newest listings continues to be a popular service. Currently, the email is disseminated to 4,320 email addresses, which is an increase over 2009 of 255 addresses.

Client Communications

Phone Calls & Emails

MnTAP technical assistance staff responded to 618 calls and emails related to pollution prevention, energy efficiency, waste management, compliance, or other needs.

Printed and Electronic Resources

In 2010, there were 1.8 million hits to the MnTAP Web site. A total of six new resources were developed and 16 existing resources were revised during 2010. All resources are hosted on the Web site.

Each of three issues of the *Source* newsletter were mailed to approximately 3,500 and emailed to 720 recipients. In 2010, the *Source* e-mail list grew to 724.

Events

MnTAP staff participated in 30 events including presentations and seminars, and exhibited MnTAP materials at booth or display locations.



Researching Energy Conservation Potential

Sponsor: Minnesota Department of Commerce

MnTAP researched industrial energy efficiency opportunities and provided reports to eight investor-owned utilities to help set the stage for major industrial energy conservation efforts within the State. Each utility's report included conservation opportunities, an analysis of rebates, and potential for future energy savings.

Sector: Industrial facilities

Amount: \$203,000

Project Period: 10/1/08 - 12/31/10

Industrial energy efficiency opportunities can make a significant impact on Minnesota utility companies' energy savings goal of 29,685 million Btu (as determined by 2008 energy use) per year as mandated by the Next Generation Energy Act of 2007, which calls for utilities to reduce their gross annual retail energy sales by 1.5% annually. The industrial sector accounted for 31% of total state energy use in 2008. Therefore, energy conservation within this sector will make an impact on the State's energy use and the utilities' savings goals.

To help utilities and industrial facilities identify where conservation opportunities exist within industrial facilities, MnTAP completed a market sector energy analysis for manufacturing sectors within eight investor-owned utility service areas in Minnesota. The results of this study indicated that natural gas savings for six gas utilities could be just over 25 million therms, approximately 8% of recent consumption. Electrical savings for four utility service areas tops 271 million kWh, approximately 8% of annual consumption. These savings estimates were based upon readily-available conservation technologies and practices. The full report can be viewed online at <<http://www.mntap.umn.edu/resources/DOC/index.html>>.

The chart and table below show the contribution that industrial energy savings can have on the 1.5% energy savings goal. A focus on industrial facilities statewide to encourage a 5% reduction in the sector's energy use can meet the 1.5% goal without accounting for any conservation efforts in other sectors.

Statewide Energy Use	
Energy Use	1,979 trillion Btu
1.5% goal	29,685 billion Btu

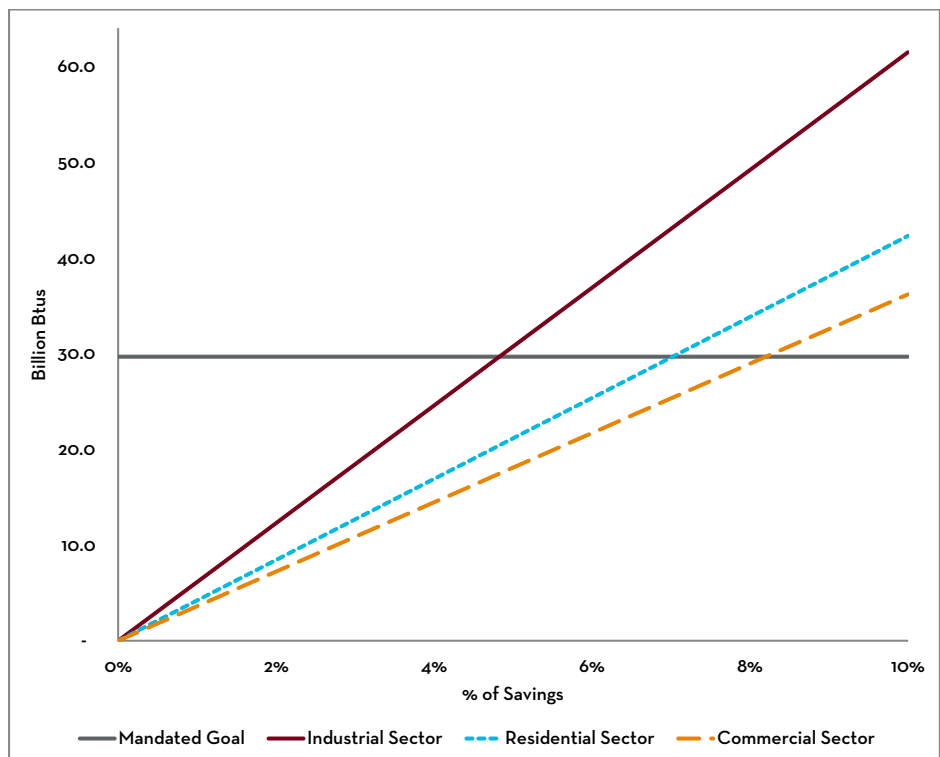
Industrial Sector - 31%	
Energy Use	615,096 billion Btu
1.5% savings	9,226 billion Btu
5% savings	30,754 billion Btu

Residential Sector - 21%	
Energy Use	423,210 billion Btu
1.5% savings	6,348 billion Btu
5% savings	21,160 billion Btu

Commercial Sector - 18%	
Energy Use	362,293 billion Btu
1.5% savings	5,434 billion Btu
5% savings	18,114 billion Btu

Transportation Sector - 30%	
Energy Use	578,521 billion Btu

Energy Efficiency Savings Needed to Meet Mandated Goals



Each utility was provided with information regarding the available industrial energy conservation opportunities as well as a conservative estimate of energy savings achievable through implementation of the opportunities. An example of the opportunities and savings identified for sub-sectors is shown in the table below.

From this study, MnTAP determined that there are conservation opportunities available for most manufacturing facilities and utility companies can encourage industrial energy efficiency as a way to meet their conservation goals. Additionally, MnTAP completed a benchmarking analysis as part of this project.

Examples of Technologies Identified in the Study

Sector	Sub-Sector	Est. Thermal Savings	Est. Electrical Savings	Technologies Identified for the Sub-Sector
Chemical Manufacturing	Ethanol Production	20%	11%	Boiler best practices, corn fractionation, motor and pump improvements, anaerobic digestion of thin stillage
	Pharmaceutical Manufacturing	18%	16%	Heat recovery, equipment and piping insulation, process controls, adding adjustable speed drives
Fabricated Metals	Machine Shops	15%	9%	Compressed air improvements, boiler tuning and best practices, fan and paint ventilation optimization
	Sheetmetal Fabrication	24%	15%	Process heat system optimization, reduction in cure time, compressor control and intake modification
Food Processing	Poultry Processing	11%	15%	Steam, boiler, and equipment best practices; heat recovery; refrigeration and motor improvements
	Commercial Bakeries	10%	16%	Direct fired best practices, boiler blowdown heat recovery, thermal oxidizer and cooling improvements
Primary Metals	Steel Products	20%	15%	Flue gas optimization, furnace optimization, process control improvements, waste heat recovery
	Aluminum Operations	14%	19%	Iso thermal melting technologies, reverberatory furnace improvements, insulation installation and improvements
Printing	Web-fed Heatset Printers	14%	15%	Replace recuperative thermal oxidizers; recover heat from dryer exhaust; improve air compressors, motors, pumps
	Non-Heatset Printers	15%	15%	Use radiant heating, replace steam humidification system, improve air compressors and motors



Implementing an Energy Efficiency Program

Sponsor: U.S. Department of Energy through Minnesota Department of Commerce

MnTAP held energy trainings, coordinated DOE assessments, and hosted technology demonstrations to teach industrial facilities about energy efficiency of compressed air systems, industrial fans, and steam systems. Sixteen companies in the project have already implemented over \$200,000 in energy savings.

Sector: High energy using facilities

Amount: \$366,836

Project Period: 3/8/10 - 3/31/11

In Minnesota, industrial facilities account for over 615 billion Btus of energy use. Due to the passing of the Next Generation Energy Act of 2007, utilities in the State are working to achieve an energy savings goal of 1.5% of gross annual retail energy sales. Additionally, many companies have begun to develop energy efficiency goals and programs.

MnTAP, in partnership with the Minnesota Office of Energy Security with funds from the American Recovery and Reinvestment Act, determined that high energy using industrial facilities could benefit from educational opportunities and facility assessments to reach energy conservation goals. MnTAP partnered with utility companies to deliver a full package of industrial energy efficiency resources in the areas of:

- Compressed air
- Industrial fans
- Steam systems

MnTAP offered three trainings, one on each area of interest, and 16 assessments, each conducted by a DOE qualified specialist. In addition, three technology demonstrations were held at Minnesota companies.

From the subsequent follow-up to the trainings, assessments, and demonstrations, MnTAP has been able to work with facilities on verifying implementation of energy saving equipment and processes. Additionally, all of the key service delivery obligations were completed within the first 10 months of the project.

Project Goals and Outcomes

Activity	# Held	Participants
Trainings	3	129
Assessments	16	16 companies
Technology Demonstrations	3	37

Savings	Identified	Implemented
Energy (kWh)	95,000,000	379,652
Energy (therms)	385,600	147,800
Costs	\$7,900,000	\$147,468

At a Glance...

Training Locations:

- St. Paul - Compressed Air
- St. Cloud - Fan Systems
- Mankato - Steam Systems

Steam Assessments:

- Dairy Farmers of America, Zumbrota
- Land O'Lakes, Pine Island
- PM Beef, Windom
- Trident Seafood, Motley
- Pace Dairy, Rochester

Compressed Air Assessments:

- Ritrama, Minneapolis
- 3M, Cottage Grove
- Del Monte, Sleepy Eye
- Seneca Foods, Glencoe & Rochester
- Kraft Foods, New Ulm

Fan Assessments:

- Northern Tool, Faribault
- Dotson, Mankato
- Ohly Americas, Hutchinson
- Dahlgren, Crookston
- Gerdau Ameristeel, St. Paul

Technology Demonstrations:

- Donaldson Co., Minneapolis
- Rock-Tenn, St. Paul
- Tennant, Golden Valley



Industrial Energy Efficiency

Sponsor: Xcel Energy

Four MnTAP interns were placed within Xcel Energy customers to identify and implement energy conservation measures. Four months after the intern projects ended, the companies have already implemented over \$150,000 in energy savings, six times the funding amount received from Xcel Energy.

Sector: Process Efficiency participants

Amount: \$25,000

Project Period: 1/1/10 - 12/31/10

One of Xcel Energy’s conservation programs is the Process Efficiency program where they encourage customers to research and implement energy efficiency opportunities. However, many of these companies are busy with day-to-day operations and struggle to find time and manpower to implement improvements.

In 2010, MnTAP partnered with Xcel Energy to place summer interns in facilities that were part of the Process Efficiency program, but needed a helping hand in researching and implementing energy efficiency solutions.

Malt-O-Meal and 3M were selected through the Xcel Energy partnership and received a MnTAP intern at no cost to the company. Additionally, Xcel Energy partially funded the interns at ConAgra Foods and Consolidated Precision Products.

Two of the participating companies implemented recommendations while the interns were still on-site. The other two companies have been working on implementation since the interns completed the projects. MnTAP staff members continue to work with the facilities on implementation. One company did hire their MnTAP intern on a part-time basis to continue working on the project and implementation.

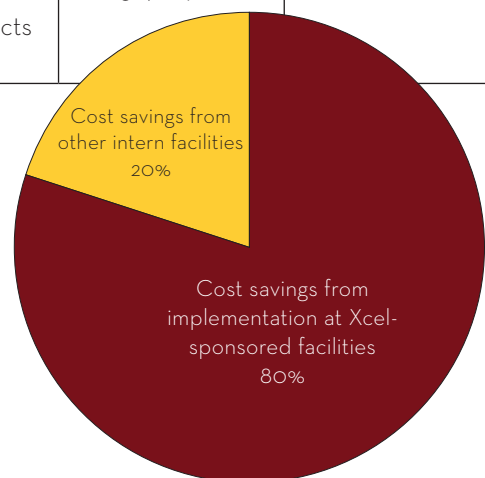
Energy savings in 2010 alone resulted in savings to the company of over \$150,000, or six times Xcel Energy’s contribution of \$25,000. This project allocated some funding for MnTAP staff members to provide guidance to the student interns.

Intern Project Implementation

In 2010, 80% of the savings from implementation of 2010 intern projects can be attributed to four projects supported financially by Xcel Energy. The utility’s support reached beyond financially contributing to the project, account representatives worked with each intern and company to further encourage implementation and offer support such as rebates.

The larger amount of implementation is likely to have occurred within Xcel Energy supported companies due to the hands-on approach by both the interns and the account representatives.

Companies	Cumulative	
	Implemented Reductions	Implemented Savings
3M Co.	1,297,261 kWh	\$154,669
ConAgra Foods	130,864 therms	
Cons. Precision Products		
Malt-O-Meal Co Inc.		





P2 and E2 for Minnesota's Lodging Sector

Sponsor: U.S. Environmental Protection Agency Region 5

MnTAP developed a project with Torgerson Properties to conduct on-site assessments at 28 properties and complete a full benchmarking report of each facility's utility use. At this time, no implementation has occurred within facilities; however Torgerson management fully supports implementation of solutions.

Sector: Hospitality

Amount: \$32,000

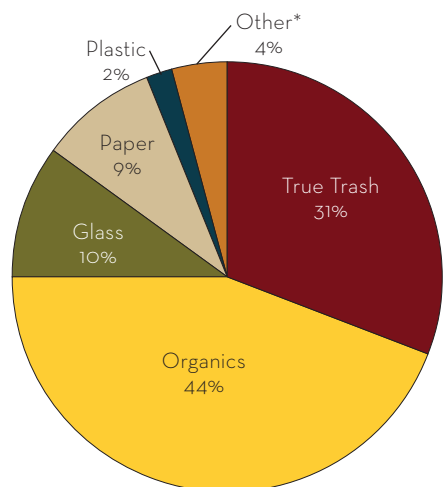
Project Period: 10/1/09 - 3/31/11

In the State of Minnesota, tourism is an \$11 billion industry and a key sector of the State's economy. Lodging facilities account for a large percentage of the tourism industry and are the primary focus of this grant project. Currently, lodging facilities are large users of natural resources generating on average 1.5-2 lbs solid waste and 200 gallons of water per occupied room. The increased growth and environmental impact of lodging facilities provide potential for significant improvements in pollution prevention practices in the hospitality industry. Without implementing pollution prevention and energy efficient practices, the industry growth will likely result in increased stress on the environment.

Through this project, MnTAP is working with lodging facilities in Minnesota to identify opportunities and provide options on how to reduce waste, resulting in an increase in energy efficiency, reduction in water use, and reduced solid waste while saving money and improving community and employee health. MnTAP is providing technical assistance to lodging facilities, developing benchmark data, sharing results, and incorporating lessons learned into recommendations for a future state-wide green hotel program.

Resort & Casino Waste Sort

During this reporting period, MnTAP worked with a resort and casino to conduct a waste sort. Results from the waste sort indicated that 69% of the waste generated could be recycled or composted. Major categories identified included:



*Other includes cardboard, magazines, newspapers, etc.

As a result of this project MnTAP has developed a relationship with Torgerson Properties and approached them in June of 2010 with a project proposal. The project includes on-site assessments at each of the 28 properties and a full benchmarking report of each facility's utility use. The project was designed to provide an opportunity for MnTAP to learn more about pollution prevention and energy opportunities and utility usage in Minnesota hotels. At this time, no implementation has occurred within facilities; however Torgerson management fully supports implementation of solutions, particularly those with quick payback periods.

Current Recommendations (No Implementation in 2010)

Savings	Identified Savings
Solid Waste (lbs)	181,556
Water (gal)	3,839,278
Energy (kWh)	562,382
Cost Savings	\$44,900



P2 and E2 for Metal Fab & Machining Sector

Sponsor: U.S. Environmental Protection Agency Region 5

Through site visits, intern projects, and follow-up efforts, MnTAP encouraged implementation of solutions that saved companies nearly \$90,000 and reduced 11,000 lbs of waste, 4.6 million gallons of water, 1.4 million kWh, and 4,000 therms.

Sector: Metal Fabricators

Amount: \$33,137

Project Period: 10/1/08 - 3/31/10

The fabricated metal products and machinery sector in Minnesota includes approximately 2,440 facilities that make products such as farm machinery, packaging machinery, and construction machinery manufacturing.

Metal fabrication and machining operations generate a number of waste streams including metalworking fluids or coolants as wastewater and scrap metal or chips as solid waste. Worker health and safety may also be a concern because of inhalation or skin exposure to metalworking fluids. The greatest energy efficiency opportunities may include improvements to compressed air systems, more efficient motors, and new welding technologies.

MnTAP was able to provide assistance to a diverse group of 40 firms, making numerous contacts within those entities. Collectively through site visits, intern projects, and follow-up efforts, MnTAP exceeded the project's goals in waste and water use reduction, and electricity conservation.

Implementation and Outcomes from 10/1/2008-3/31/2010

Savings	Identified	Implemented	% Impl.
Waste (lbs)	29,050	11,480	39.5%
Water (gal)	6,705,580	4,655,295	69.4%
Energy (kWh)	2,740,265	1,363,705	49.7%
Energy (therms)	252,420	4,020	1.5%
Costs	\$360,620	\$89,175	24.7%

Technology Demonstrations Held As Part of the Project

In addition to conducting site visits, MnTAP also conducted four demonstration/pilot projects.

Coolant Technology

An intern at Johnson Screens piloted a carbon dioxide "snow mist" technology as a substitute for machine coolants. The technology was projected to save 2.1 million gallons of water, 90,000 kWh of electricity, and eliminate 3,900 gallons of oil-based cooling fluid. However, the capital and operating and maintenance costs exceeded the company's desired payback, and the company adopted an alternative technology.

Compressed Air Leak Detection

A compressed air leak detection device was demonstrated at an event organized jointly by MnTAP and CTRL in Fall 2009 that included both a seminar and technology demonstration.

Metal Working Fluid Oil Skimmer/Separator

A solvent systems metal working fluid oil skimmer/separator was piloted on an automated machining line. If implemented, the unit would conserve 800 gallons of coolant/year per tool and reduce oil-containing waste by 7,650 pounds per tool.

Effluent Treatment System

A CoMag effluent treatment system by Cambridge Water Technology was tested to remove metal debris, machine oils, and fluids from coolants. If implemented, the technology is estimated to conserve 2.4 million gallons of water annually and would reduce coolant use by 140,000 gallons.



P2 Opportunity Assessments & Plan for MN ARNG

Sponsor: Minnesota Department of Military Affairs

The Minnesota Army National Guard (MN ARNG) P2 Plan, developed by MnTAP, addresses 32 different sources of wastes and efficiencies. The Plan was developed to be used throughout the 80 Guard facilities in Minnesota to help improve the environmental performance of the MN ARNG.

Sector: Military

Amount: \$85,000

Project Period: 10/1/08 - 9/30/10

The Minnesota Army National Guard (MN ARNG) along with the Minnesota Air National Guard comprises the Minnesota Department of Military Affairs (DMA). The DMA has approximately 10,200 part-time employees and 2,100 full-time employees exercising both State and Federal missions. The MN ARNG has a major military reservation at Camp Ripley, near Little Falls, Minnesota, along with other facilities including:

- The Arden Hills Army Training Center
- The Army Aviation Support Facilities for rotary wing aircraft in St. Paul and St. Cloud
- A Combined Field Maintenance Shop in New Brighton
- Nine Field Maintenance Shops
- More than 60 Training and Community Centers around the State

The environmental performance of these branches is important to the Guard missions as well as to the communities in which the citizen soldiers live and serve. MnTAP worked with the MN ARNG to develop a pollution prevention plan to help the Guard seek out improvements and reduce environmental impacts.

Project Outcome: P2 Plan

The P2 Plan catalogs pollution prevention opportunity assessments (PPOAs) for 32 different sources of wastes and efficiencies. These 32 topics were chosen based on the environmental impact of the identified waste or energy reduction opportunities and/or the cost impact. Some of the PPOAs are facility-specific, but several can be applied at many or all MN ARNG maintenance locations throughout the State. During this contract period (2008-2010), twelve new PPOAs were developed during the contract period, while the 20 developed under an earlier contract were revised.

Project Outcome: EO Summarizations

Executive Orders (EOs) from the President of the United States or State Governors direct government entities to accomplish goals in many different emphasis areas. The MN ARNG needs to understand and act on the intent of current EOs.

MnTAP summarized the EOs that address four MN ARNG priorities: pollution prevention and recycling, energy efficiency and greenhouse gases, renewable energy, and water conservation. The summarizations provide a broad outline for addressing these priorities.

At a Glance...

Examples of revised PPOA topics:

- Absorbent use reduction
- Antifreeze use and recycling
- Aqueous washer replacement
- Used oil space heating
- Battery management
- Depainting

Examples of new PPOAs:

- Ultrasonic weapons cleaning
- Alternative commuting opportunities to Camp Ripley
- Air compressor system optimization
- Bio-based hydraulic fluids
- Packaging waste reduction



P2 for Non-Hospital Healthcare Facilities

Sponsor: MPCA (U.S. Environmental Protection Agency Region 5)

The MPCA and MnTAP partnered on this project to provide regulatory and pollution prevention information to non-hospital healthcare clinics in Minnesota. Through the project, 46 new informational documents were created including a Web site, online assessments, and presentations. Site visits and trainings were held to educate clinic staff about regulations and pollution prevention opportunities.

Sector: Non-hospital health clinics

Amount: \$22,100

Project Period: 10/1/09 - 9/30/10

Approximately 9,000 non-hospital healthcare facilities operate in Minnesota. These facilities include dental offices, long term care facilities, medical clinics, pharmacies, and veterinarian clinics. The MPCA believed that most of these facilities were out of compliance with hazardous waste regulations, especially with respect to pharmaceutical waste management. Therefore, the MPCA developed a project to educate facilities and help them with compliance issues. Part of the project was also to engage MnTAP in helping the facilities identify and implement pollution prevention strategies as a way to lessen each facility's regulatory burden and help them save money.

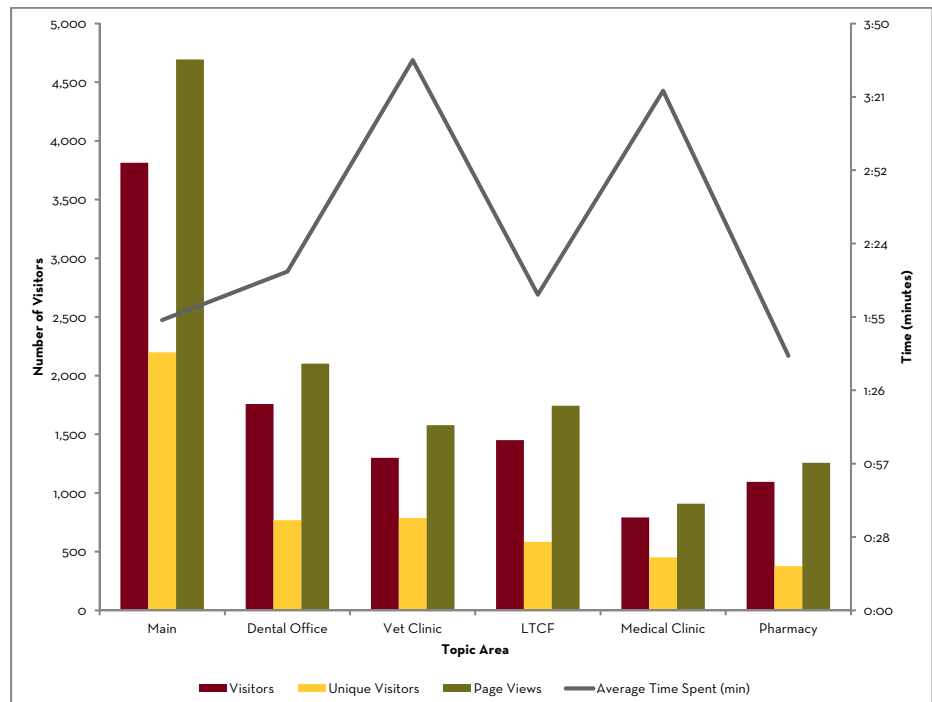
Many of the affected businesses are recognizing the need to proactively address hazardous waste regulations for the first time. While these businesses are initially focusing on compliance, MnTAP and MPCA believes that they will be more inclined to shift their focus to implementing P2 practices after coming into compliance.

The tools jointly developed by MnTAP and MPCA through this project included a Web site, presentations, and on-line self assessments. MnTAP also provided direct pollution prevention technical assistance in the form of site visits.

Project Results

P2 info developed (unique documents)	46
Web visitors (page views)	12,283
People trained in P2 (events & webcasts)	1,815
Brief assistance (calls & emails)	64
Site visits	14 (12 unique)

Web Visits per Type of Facility and Time Spent in Each Area





Sustainability, Lean, and Energy Projects

Sponsors: Xcel Energy through Center for Energy and Environment
Mn Department of Employment & Economic Development through Enterprise Minnesota

These two projects began in 2010 and have focused on providing clients with best practices, Lean principles, and Kaizen events to encourage implementation of energy efficiency and pollution prevention opportunities.

Sector: Manufacturing
Sector: Metal Casting

Amount: \$20,000
Amount: \$30,000

Project Period: 5/1/10 - 5/1/11
Project Period: 10/1/10 - 9/30/12

Lean & Energy Project

MnTAP has partnered with the Center for Energy and Environment (CEE) and Enterprise Minnesota to identify opportunities and implement changes that will significantly reduce energy use and waste at three selected industrial facilities. The project utilizes Value Stream Mapping to develop a comprehensive plan to prioritize actions to measure and improve operations. The mapping process identifies opportunities to reduce energy and water, to better utilize existing resources, and to reduce waste. Kaizen events (rapid improvement events) are being utilized to implement changes and verify the results. This approach is being piloted at three companies: Jones Metal Products, Uponor Inc. and Cold Spring Granite. Project results will be available June 2011.

Green Manufacturing for Sustainability

MnTAP and Enterprise Minnesota are working in collaboration with the foundry industry in Minnesota to integrate “green manufacturing” (pollution prevention and energy efficiency) into the manufacturing value stream for cost savings and sustainability, also referred to as Lean 2.0. Through a Minnesota Job Skills Partnership grant, five foundries will participate in this program to establish “best practices” that can be deployed through training and assistance to the full foundry sector. Activities include facility assessments, development of value stream maps, and Kaizens to create immediate, short and long-term environmental and energy impacts. A training curriculum will be developed based on the energy efficiency and pollution prevention practices identified and delivered to the metal casting industry. This work will continue through 2011 and end in July 2012.



Appendix A: Activity-Based Goals

Activity-based goals help MnTAP meet its waste reduction and cost savings goals. Most company contacts begin with a phone contact; many are followed by a site visit; a smaller percentage develops into intern projects.

Technical Assistance Activity	Annual Goal	2010 Results
Contacts (Calls/Emails)	1,000	618
Total Staff Site Visits (number facilities visited)	200	335 (123)
Student Interns	6	8
Materials Exchange (# exchanges)	337	164
Materials Exchange Web Referrals	20,100	7,594
Presentations	50	30
MnTAP Web Visits	1,000,000	1,855,671

Environmental and Economic Benefits

Each year MnTAP works to achieve its goals of reducing 4 million pounds of waste (solid/hazardous waste, air emissions, and wastewater discharge), 10 million gallons of water, 3 million kWh, 300,000 therms, and saving companies \$3.0 million dollars. MnTAP documented reductions are shown below.

In 2010, MnTAP met the water conservation and energy goals as indicated by documented reductions of 17.4 million gallons of water, 3.5 million kWh, and 307,000 therms. Our documented waste reductions and cost savings fell short of the set goals for a variety of reasons including the rebuilding economy as well as a number of indirect technical assistance activities (Minnesota Department of Commerce industrial energy conservation opportunities study) that required significant staff time.

Activity	Total Waste (lbs)	Water Conserved (gal)	Energy Conserved*		Cost Savings
			kWh	therms	
Goal	4,000,000	10,000,000	3,000,000	300,000 therms	\$3,000,000
Site Visits	22,368	11,063,400	1,166,640	160,566	595,475
Student Interns (2010)	250	166,750	1,766,139	130,864	193,212
Previous Interns (2006-2009)**	82,934	6,181,500	587,300	15,780	440,301
Totals	105,552	17,411,650	3,520,079	307,210	1,228,988
Materials Exchange*	57,457	---	---	---	82,851
GRAND TOTAL	163,009	17,411,650	3,520,079	307,210	\$1,311,839

*Calculated CO₂ emission reduction equals 8.9 million pounds per year

** First year savings only



Appendix B: On-Site Work

Site Visits

2010 Goal

Conduct 200 site visits (or 2,000 site visit hours).

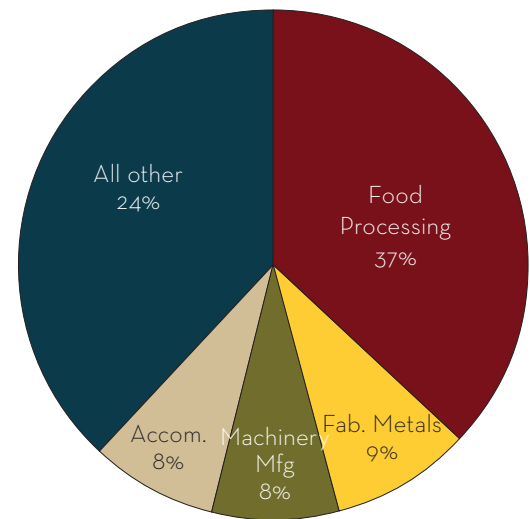
2010 Accomplishments (Includes All Grant Work)

A total of 335 staff site visits were conducted in 2010, primarily within the food processing, fabricated metals, primary metal manufacturing, and hospitality industries. These site visits were conducted at 123 different facilities. Site visit numbers are consistent with MnTAP target areas, as well as some supplemental grants supporting MnTAP work at these facility types.

MnTAP currently has six operating teams in companies that are examining opportunities for implementing pollution prevention and energy efficiency solutions. Teams meet monthly for 18-24 months.

MnTAP worked with Enterprise Minnesota to integrate lean and green in a variety of industries. Staff members from the two organizations collaborate and work with companies to develop value stream maps and kaizens that include energy efficiency and environmental opportunities.

Percent of Site Visits in Various Sectors



Implementation Resulting from Site Visits

NAICS	Business Type	Waste Reduced (lbs)	Water Reduced (gal)	Energy (kWh)	Energy (therms)	Cost Savings	# of Companies
311/312	Food processing	693	11,063,400	20,000	147,800	420,982	5
325	Chemical mfg.	-	-	161,000	-	9,000	1
326	Plastics & rubber	-	-	80,098	-	5,913	2
332	Fab. metal products	5,126	-	99,222	-	23,339	5
333	Machinery mfg	-	-	806,320	-	41,744	2
334	Computer & electronics	-	-	-	6,876	5,844	1
621/622	Health services	16,548	-	-	-	84,353	3
811	Repair & maintenance	1	-	-	-	-	1
924	Government programs	-	-	-	5,890	4,300	1
Grand Total		22,368	11,063,400	1,166,640	160,566	595,475	21

Site Visit Summary

NAICS	Business Type	Site Visits Conducted	Individual Facilities	% of Total Site Visits
311/312	Food processing	124	24	37%
322	Paper manufacturing	3	2	1%
323	Printing/publishing	23	3	7%
325	Chemical manufacturing	8	4	2%
324	Petroleum & coal products manufacturing	1	1	---
326	Plastics & rubber	14	8	4%
331	Primary metal manufacturing	19	8	6%
332	Fabricated metal products	30	12	9%
333	Machinery manufacturing	26	6	8%
334	Computer & electronics	1	1	---
336	Transportation equipment	5	3	1%
339	Miscellaneous manufacturing	14	6	4%
221	Utilities	3	3	1%
811	Repair & maintenance facilities	1	1	---
812	Dry cleaning	1	1	---
721	Accommodation facilities	28	22	8%
621-623	Health services	14	8	4%
611	Education	1	1	---
541	Prof, scientific, & technical services	5	5	1%
921/928	Government programs	14	4	4%
TOTAL		335	123	100%

Intern Program

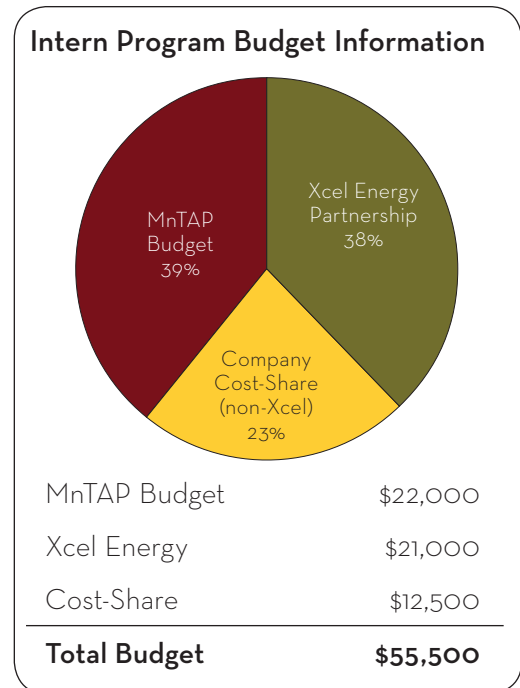
2010 Goal

Place students in six companies to work on pollution prevention, energy efficiency, and waste reduction projects during the summer of 2010.

2010 Accomplishments

MnTAP exceeded our goal and placed eight students in companies during the summer of 2010. The companies are listed in the table below. Of the eight interns, three primarily addressed pollution prevention opportunities, while the other five focused on energy efficiency. The interns' recommendations and associated savings are featured in the following table and implementation statistics are highlighted on the following page.

MnTAP and Xcel Energy partnered to offer interns to Malt-O-Meal and 3M. Additionally, Xcel Energy partially funded the interns at ConAgra Foods and Consolidated Precision Products. MnTAP was also successful in getting commitments from the four non-Xcel companies to provide cost-share for their intern projects in 2010. Cost share from companies is generally one-third of the total intern cost or \$2,500.



2010 Implementation Results

In 2010, MnTAP staff members followed up with companies that hosted interns from 2006 through 2010. That follow-up resulted in significant savings being recorded and provided the companies with any additional implementation support they may have needed. Overall project implementation was significantly greater in 2010 than in 2009 when companies only implemented approximately \$52,000 in savings.

Implementation Occurring in 2010 from Intern Projects Held in 2006-2010

Project Year	Waste (lbs)	Water (gal)	kWh	therms	Costs (\$)
2010	250	166,750	1,766,139	130,864	193,212
2009	37,032	425,500	451,993	15,780	103,725
2008	45,902	0	135,307	0	326,576
2007	0	0	0	0	0
2006	0	5,756,000	0	0	10,000
TOTAL	83,184	6,348,250	2,353,439	146,644	633,513

Reaching 100% Implementation

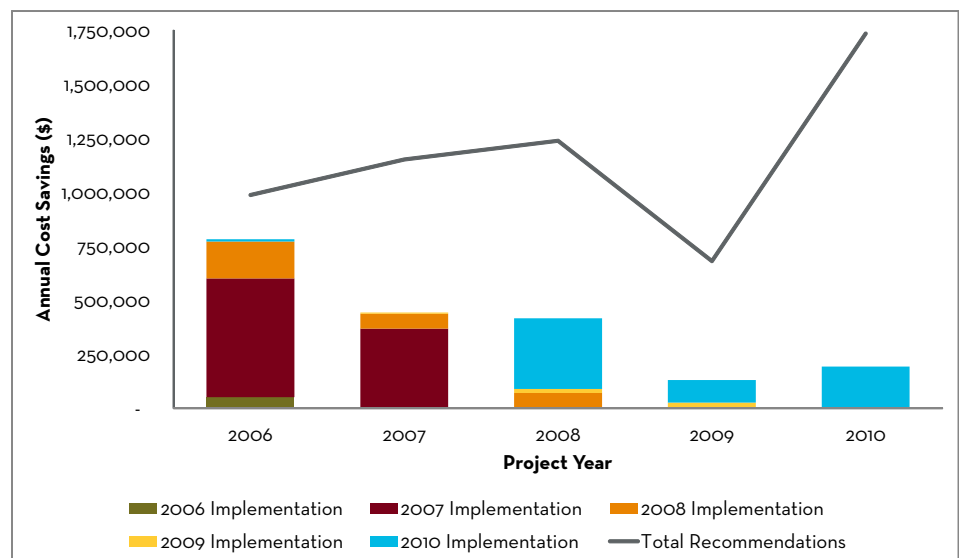
As MnTAP follows up on intern projects held in past years, we hope that companies will make the effort to implement as many suggestions as possible. Typically, the implemented recommendations after two years of follow-up account for approximately 33% of the total savings identified. However, the longer the follow up is maintained with companies, the more implementation occurs. In the following table, cost savings implemented are identified along with the percent of implementation in terms of cost savings. In 2010, we reached a cumulative 34% implementation of the projects held since 2006.

Implementation of Cost Savings Each Year Since 2006

		Implementation Year					Cost Savings Implemented	Savings Estimate	% Implemented
		2006	2007	2008	2009	2010			
Project Year	2006	51,647	550,250	170,900	0	10,000	782,797	987,554	79%
	2007	-	369,282	68,575	6,000	0	443,857	1,152,068	39%
	2008	-	-	71,028	19,124	326,576	416,728	1,238,781	34%
	2009	-	-	-	27,177	103,725	130,902	681,822	19%
	2010	-	-	-	-	193,212	193,212	1,734,846	11%
Totals		51,647	919,532	310,503	52,301	633,513	1,967,496	5,795,071	34%

The chart to the right shows visually how close to full implementation each project year is. Companies participating in the program in 2006 have implemented nearly 80% of the recommendations, which is one of the highest implementation rates for the 25 years of the program. It is important to note that significant cost savings were implemented within the first two years; however, over \$180,000 of cost savings were implemented more than two years after the project ended.

Reaching Full Implementation of Projects





Appendix C: Client Communication

2010 Goal

Respond to a minimum of 1,000 customer calls and emails, log 1,000,000 Web site visits, and participate in 50 events, either presenting information formally or as part of a booth display.

2010 Accomplishments

Phone Calls & Emails

MnTAP technical assistance staff responded to 618 calls and emails related to pollution prevention, energy efficiency, waste management, compliance needs, or other needs.

A number of calls and emails were received from partner organizations such as associations, government agencies, and consultants. These partners use MnTAP for technical assistance, but also work with staff on various program initiatives.

Printed and Electronic Resources

In 2010, there were 1,855,671 hits to the MnTAP Web site. The site is the primary location for clients to obtain fact sheets and other resources easily. Overall, 124 fact sheets, case studies, and referral lists are maintained as part of the MnTAP clearinghouse. A total of six new resources were developed and 16 existing resources were revised during 2010.

Three issues of the *Source* newsletter were mailed to a list of approximately 3,500 recipients each time. MnTAP has been promoting electronic distribution of the *Source* to reduce printing and mailing costs and to facilitate sharing of the newsletter. In 2010, the *Source* e-mail list grew to 724.

Source Newsletter Topics

Issue 1: machining and metal fabricators that have reduced waste, water, and energy; DOE grant-sponsored energy efficiency assistance

Issue 2: boiler efficiency, waste heat recovery, SolarWall renewable energy systems, MnTAP/DOE steam training, and CenterPoint Energy rebates; MnTAP's 25th Anniversary celebration and past achievements

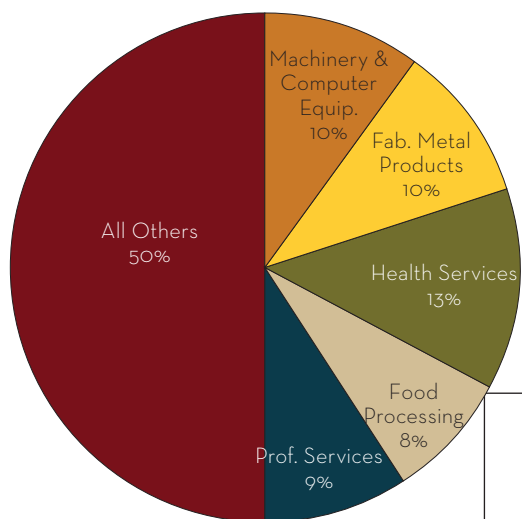
Issue 3: water conservation and wastewater reduction opportunities; director announcement; Governor's Award winners; 2010 intern program results

Events

MnTAP staff participated in 30 events including presentations and seminars, and exhibited MnTAP materials at booth or display locations. Selected topics for these presentations and booths have included information related to MnTAP services, energy efficiency, healthcare, pollution prevention integration, process efficiency, Materials Exchange, and wastewater loading reduction.

Some presentations or seminars are associated with grant activities such as metal fabrication and energy efficiency. MnTAP staff members gave two presentations at the National Environmental Partnership Summit regarding project results and lessons learned. MnTAP also presented energy efficiency information during a webinar sponsored by the National Pollution Prevention Roundtable.

2010 Telephone Assistance Summary



Business Type	# of Calls	% of Total	Unique Orgs
Accommodation & Food Services	8	1%	8
Administrative & Support Services	2	0%	1
Arts, Entertainment, & Recreation	7	1%	3
Construction	4	1%	3
Educational Services	6	1%	5
Health Care	78	13%	40
Information	1	0%	1
Manufacturing	296	48%	148
Miscellaneous	43	7%	29
Prof, Scientific, & Technical Services	53	9%	36
Public Administration	32	5%	16
Rental and Leasing Services	1	0%	1
Retail	6	1%	6
Utilities	32	5%	21
Waste Mgmt & Remediation Services	5	1%	3
Wholesale Trade	15	2%	10
Anonymous	29	5%	29
TOTAL	618	100%	360

NAICS	Business Type	# of Calls	% of Total Mfg	% of All Calls	Unique Orgs
311	Food Mfg	46	16	7	20
316	Leather and Allied Product Mfg	2	1	0	1
321	Wood Product Mfg	11	4	2	6
322	Paper Mfg	7	2	1	5
323	Printing and Related Support Activities	6	2	1	3
325	Chemical Mfg	26	9	4	14
326	Plastics and Rubber Products Mfg	32	11	5	14
331	Primary Metal Mfg	16	5	3	8
332	Fabricated Metal Product Mfg	59	20	10	25
333	Machinery Mfg	39	13	6	18
334	Computer and Electronic Product Mfg	10	3	2	6
335	Electrical Equipment and Component Mfg	6	2	1	3
336	Transportation Equipment Mfg	14	5	2	11
337	Furniture and Related Product Mfg	6	2	1	4
339	Miscellaneous Mfg	16	5	3	10
TOTAL		296	100	48	148



2010 MnTAP Booths

Date	Event	Audience	Attendees	City	State
2/3/2010	Environmental Career Fair	Environmental studies students	100	St. Paul	MN
4/27/2010	Green Business Expo	Minneapolis businesses	150	Minneapolis	MN
5/25/2010	Food Processing Symposium	University of Minnesota	50	St. Paul	MN
8/19/2010	Intern Presentations	Various	75	Minneapolis	MN
9/15/2010	Small Business Assoc Fair	Twin Cities businesses	575	Brooklyn Center	MN
9/28/2010	Assn of Gerontological Nurses	Gerontological nurses	40	St. Cloud	MN
10/14/2010	ARROW Meeting	South Metro Businesses	60	Burnsville	MN

2010 MnTAP Presentations

Date	Event	Audience	Topic	Attendees	Location
1/14/10	Twin Cities Rubber Group	American Chemical Soc.	P2/E2 Topics and MnTAP	45	Maple Grove
2/12/10	Aging Services Institute	Long Term Care Fac.	Waste Reduction	50	Minneapolis
3/10/10		Vet Manager Group	Healthcare HW & Reduction	15	Shoreview
4/30/10	Annual Spring Seminar 2010	Minnesota Healthcare Engineers Association	MnTAP and Intern Program	60	Hinckley
5/4/10	ERC TRI / P2 training		P2/E2 Topics and MnTAP	55	New Brighton
5/19/10		Nuss Truck and Equipment Company	P2/E2 Topics and MnTAP	25	Roseville
5/20/10	TRI training seminar	Manufacturers	P2 Planning and MnTAP	60	Minneapolis
5/25/10	Food Processing Symposium	Univ. of Minnesota	MnTAP and Intern Program	50	St Paul
5/25/10	National Environmental Partnership Summit		MnTAP Energy Efficiency	20	Orlando, FL
5/25/10	Food Processing Symposium	Univ. of Minnesota	Water and WW Loading	50	St Paul
5/25/10	Food Processing Symposium	Univ. of Minnesota	Energy Conservation	50	St Paul
5/25/10	National Environmental Partnership Summit	P2 technical assistance programs	25 years of P2 in Minnesota	25	Orlando, FL
6/15/10	Utility Energy Forum	Utilities	MnTAP and Intern Program	60	Minneapolis
6/15/10	Utility Energy Forum		MnTAP resources	60	Minneapolis
6/18/10	EDA Association of Minnesota Annual Meeting	Economic developers	Helping businesses go green	50	Brainerd
7/22/10	ARTA Green Summit	American Reusable Textile Assn	Surgical Gown LCA Results	125	Quebec
8/17/10	Intern Presentations	MPCA	Intern Projects - 2010	40	St Paul
8/19/10	Intern Presentations	Various	Intern Projects - 2010	75	Minneapolis
8/28/10	MN Dental Association	Dentists	Compliance and P2	250	Roseville
9/17/10	Hennepin County Hazardous Waste Training	Hazardous Waste Generators	P2/E2 Topics and MnTAP Overview	40	Brooklyn Park
10/20/10	Industrial E2 Workshop	Manufacturers	MnTAP and E2	80	Lakeville
10/28/10	Anoka Hennepin Rotary Mtg	Rotarians	MnTAP and E2	25	Anoka
11/8/10	UMN Student Group Mtg	Active Energy Club	MnTAP and Intern Program	20	Minneapolis
12/16/10	NPPR Webinar	P2 programs	Industrial energy efficiency	40	Minneapolis
TOTAL				1,370	



Appendix D: Materials Exchange

2010 Goal

Achieve 300 exchanges, 130,150 pounds (65 tons) of material exchanged and add five additional continuous exchanges.

2010 Accomplishments

Materials exchange staff responded to 172 calls and helped facilitate 7,594 Web self-referrals to the online database. Web site and database support continued for the eight local exchange sites: St. Louis County, WLSSD, West Central, North Central, Chisago County, Otter Tail County, Southwest, and Southeast.

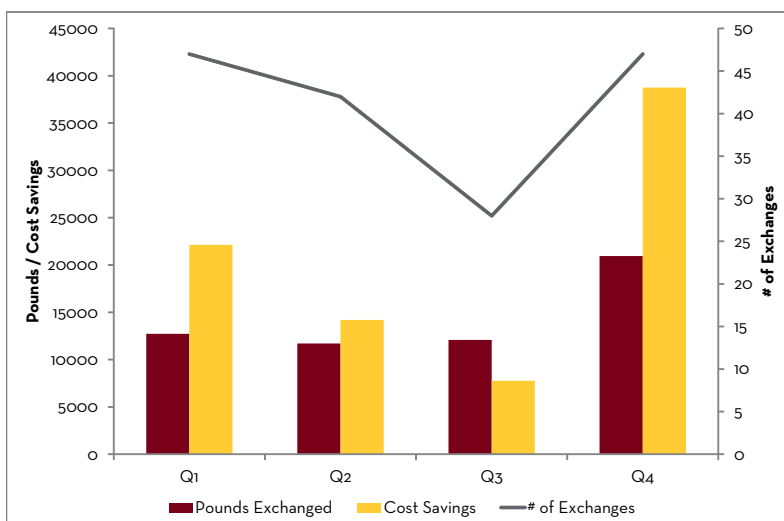
Materials exchange is utilized by various types of organizations with the greatest number in the non-profit sector. During 2010, a greater amount of materials were exchanged in the metro area versus out-state areas. Approximately 55% of users were located in the metro area, 36% of users were outside the metro area, and 8% were out-of-state users.

The twice monthly email containing the newest listings continues to be a popular service. Currently, the email is disseminated to 4,320 email addresses, which is an increase over 2009 of 255 addresses.

Top 4 Listed Items

- Pallets
- Containers
- Furniture
- Electronics

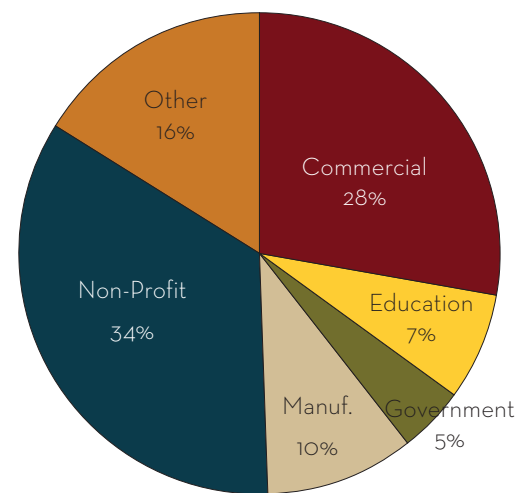
Quarterly Exchanges for 2010



2010 Materials Exchange Results

Exchanges	164
Weight	57,457
Continuous Exchanges	3
Cost Savings	\$82,851

Materials Exchange Users



Future Plans

In 2011, MnTAP is replacing the existing Materials Exchange database infrastructure with new software to better support the exchange activities. The new system will more efficiently facilitate exchanges and is better equipped to handle the program's large membership.

The Materials Exchange will be partnering with the University of Minnesota ReUse program on the upgrade and new system. Additional partners are being discussed and will be added as the new system is made available.