

# MnTAP and Industrial Energy *CERTS 2013*

Minnesota Technical Assistance Program



UNIVERSITY OF MINNESOTA

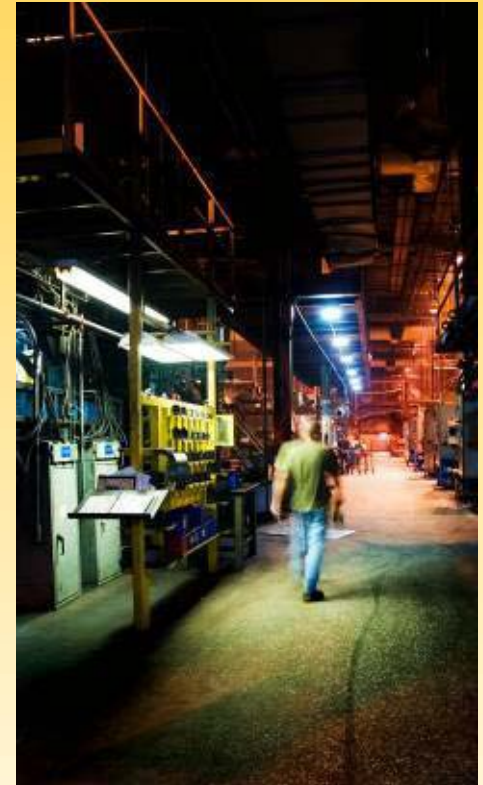
**Driven to Discover<sup>SM</sup>**

# Minnesota Technical Assistance Program

- Created in 1984
- Located at the University of Minnesota
- Provide waste management, pollution prevention and energy efficiency assistance
- Confidential and Non-regulatory

# Industrial Process Assistance

- Pollution prevention
- More efficient use of raw materials
- Water conservation strategies
- Energy efficiency opportunities
- Cost savings for businesses!!



# MnTAP Services

- On-Site Assistance
  - Site assessment visits
  - Company team facilitation
  - Intern program
  - Demonstrations and research projects
- Minnesota Materials Exchange
- Communications and Outreach

# Program: On-Site Assistance

- One-on-one assistance
- P2 and E2 process evaluation
- Recommendations in a report or letter
  - Staff follow-up for further assistance in problem solving and implementation

# Impact: Standard Iron & Wire Works

*Sauk Centre, Minnesota*



- Referred by Minnesota WasteWise
- Focused on paint booth efficiency
- Arranged a tour for staff to visit another successful company
  
- Made changes to facility to save
  - 3,900 lbs powder paint (\$10,000)
  - Less staff time spent handling paint
  
  - 3,600 therms (\$2,500)
  - Better work environment

# Impact: Community Assistance

## *City of Buffalo*

- Contact - City Utility Director
- Site visit request for target businesses
  - Small printer
  - Car washes
  - Metal finishing
- Opportunities Identified
  - Fan efficiency
  - Compressed air leaks
  - Motor efficiency
- Potential Savings
  - >70,000 kwh
  - \$9,000



# Program: Team Facilitation

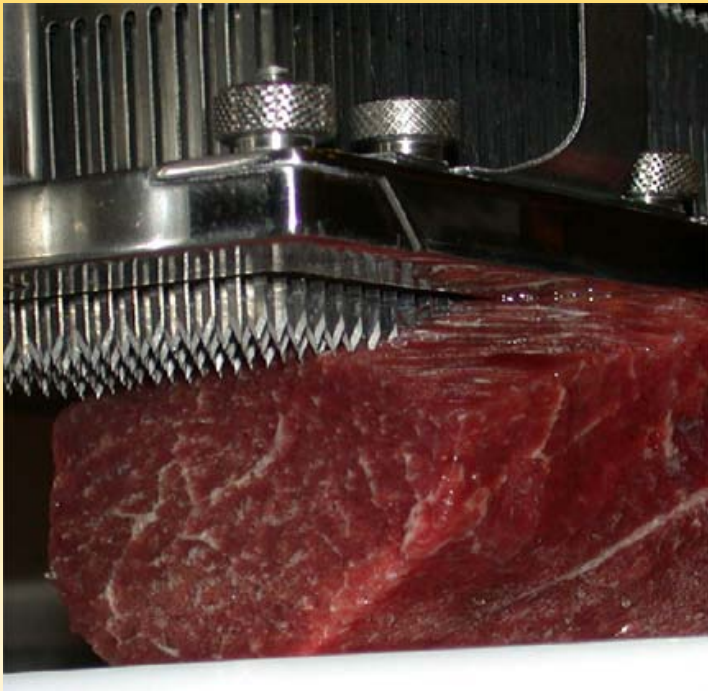
- Success Through
  - Management support
  - Proper training
  - Empowered staff
- Leads To
  - Identifying and solving problems
  - Faster and more effectively





# Impact: PM Beef

*Windom, Minnesota*



- Attended steam assessment training and participated in a facility audit
- Developed team to address energy management
- MnTAP helped prioritize team projects
- Completed several projects in 2011
  - 172,000 therms
  - 2.5 million gallons of water
  - \$114,000

# Program: Interns

- Fresh set of eyes for facility
- Work on target projects
- Advised by MnTAP and onsite supervisor
  - MnTAP staff conducts follow-up with company for up to 2 years
- Hired and paid by MnTAP
  - Utility partnerships
  - Companies contribute cost-share

# Energy Related Projects – 2010-12 Interns

## Breadth of focus

- Motor replacement and efficiency program
- Aeration and mixing energy in waste treatment
- Energy and resource use in paint and coatings
- Steam and compressed air utility improvement
- Process waste heat recovery

## Big and small projects

Clients ranged from small to Fortune 500's

# Impact: Consolidated Precision Products

*Bloomington, Minnesota*



- Two interns since 2008
- Goals: reduce/eliminate SF<sub>6</sub> and reduce energy use
- Second intern now full-time employee
- Rolled out SF<sub>6</sub> alternative to other facilities in U.S.
  
- Results of implementation include:
  - Reduced SF<sub>6</sub> by 36,500 lbs (\$250,000)
  - Reduced energy use by 1 million kWh and 93,000 therms (\$120,000)

# Impact: City of Rogers WWTP

*Rogers, Minnesota*



- 2011 intern project
- Investigation energy efficiency of oxidation ditch rotors
- Identified new control scheme to reduce energy use
- City implemented optimal control set point and new pond aerators
- Potential for 240,000 kWh and \$15,000

# 2011 Environmental Benefits

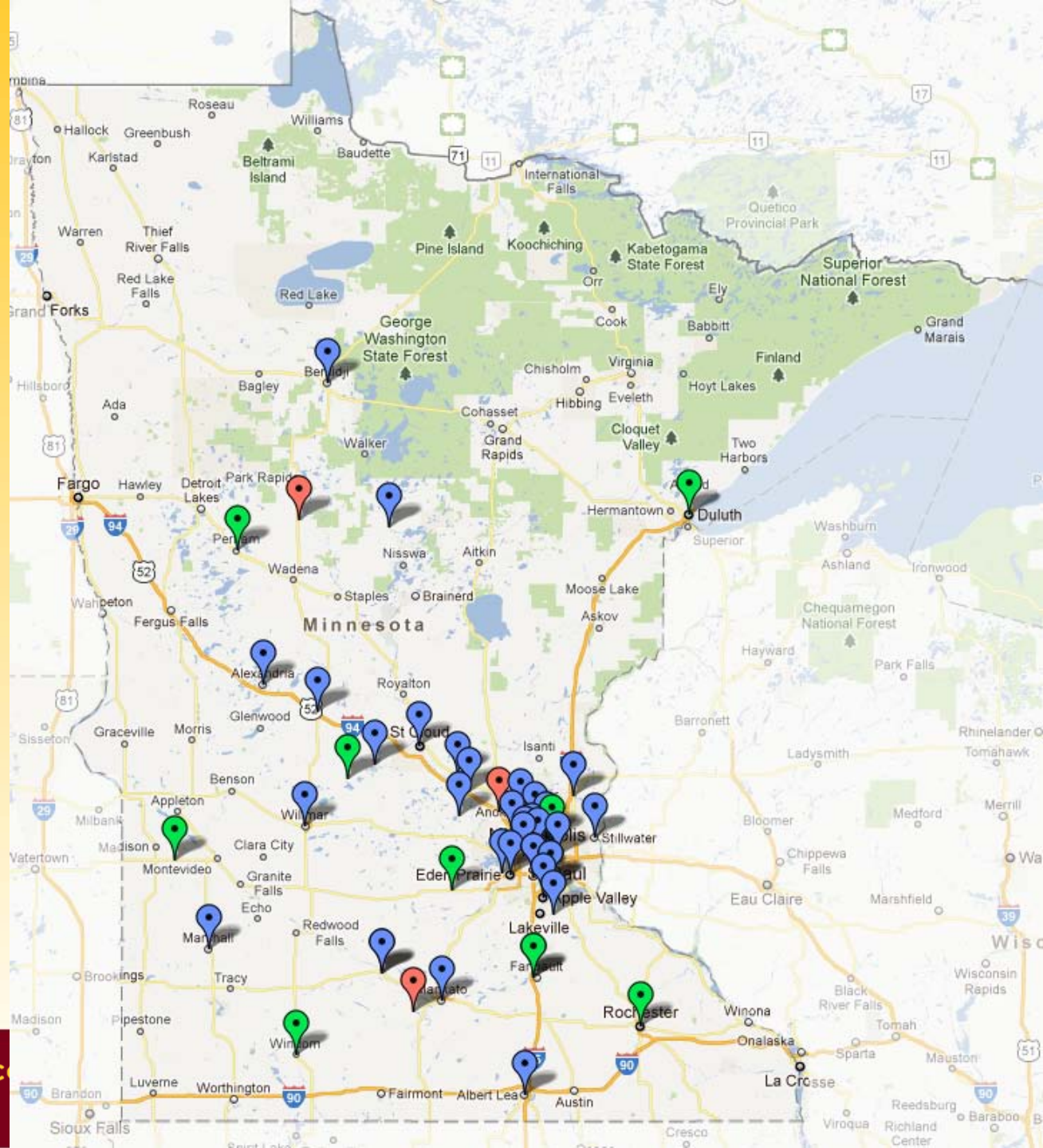
Activity	Total Waste (lbs)	Water (gal)	Energy		Cost Savings
			kWh	therms	
Goal	200,000	11,000,000	4,000,000	330,000	\$1,350,000
Site Visits (calls/emails)	3,580,000	620,000	1,640,000	955,000	\$1,370,000
Interns	15,000	6,150,000	3,828,000	1,166,000	\$1,100,000
Teams	1,545,000	7,100,000	2,320,000	76,000	\$680,000
Materials Exchange	380,000	---	---	---	\$11,000
<b>GRAND TOTAL</b>	<b>5,100,000</b>	<b>13,900,000</b>	<b>7,800,000</b>	<b>2,200,000</b>	<b>\$3,100,000</b>

# Our Reach

 Site Visits

 Teams

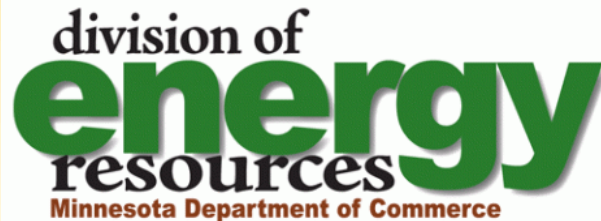
 Interns



Minnesota Technical Assistance Program  
[www.mntap.umn.edu](http://www.mntap.umn.edu)

# Save Energy Now – Grant Project Overview

- Project initiated – 2009
- Sponsor - MN Department of Commerce with a grant from US Department of Energy Save Energy Now Program



U.S. DEPARTMENT OF  
**ENERGY**





# Training Events

- Energy Efficiency Training Events
  - DOE certified trainers
  - 1-2 day training events
  - Variety of industrial topics
    - Compressed Air
    - Motors
    - Fans
    - Steam
    - Refrigeration



# Project Outcomes so far...

- **Training Workshops**
  - Compressed Air, Steam, Fan, Motors, Pumps
- **Energy Assessments**

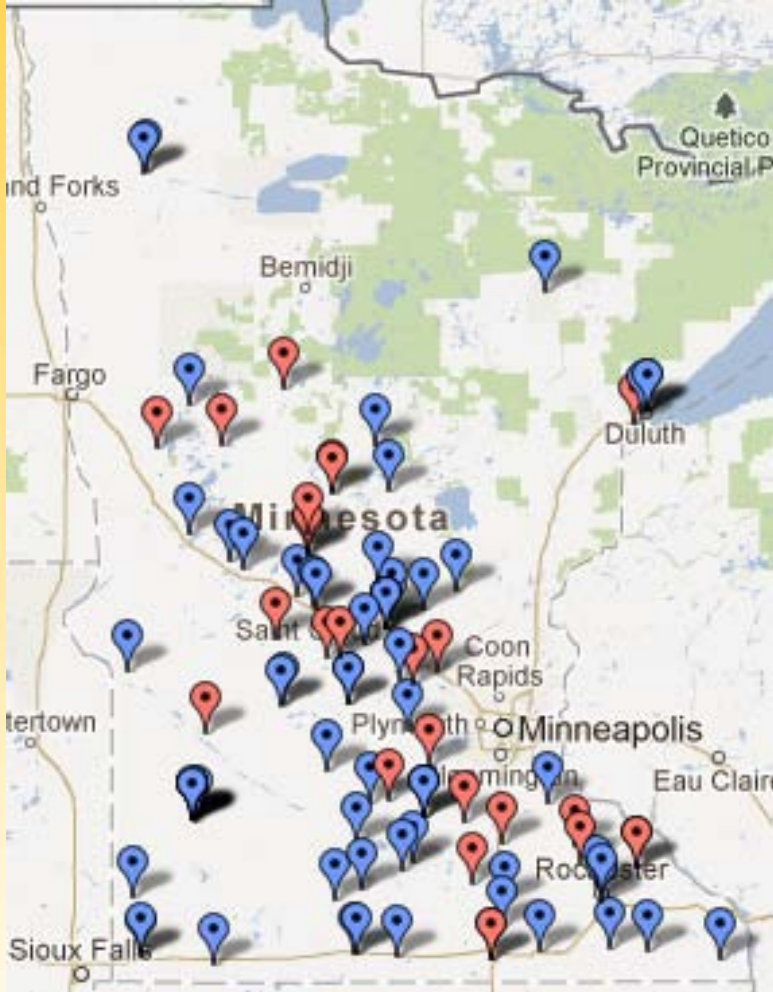
Activity	Identified Savings		Implemented Savings	
	MMBtu	Cost Savings	MMBtu	Cost Savings
25 DOE Assessments	419,000	\$7.9 million	103,500	\$948,000
8 Additional Assessments (IAC, Lighting, Intern)	6,800	\$124,000	2,250	\$39,000
<b>Total</b>	<b>426,000</b>	<b>\$8.0 million</b>	<b>106,000</b>	<b>\$987,000</b>

# DOE Energy Intern Projects 2012

Company	Intern	MnTAP Staff
Graco Inc.	Brian Joe	Mick Jost
Northern Iron & Machine	Eric Sterna	Mick Jost
3M	Olivia Zigler	Karl DeWahl
Seneca Foods	Emily Hutson	Paul Pagel

This project was made possible by a grant from the U.S. Department of Energy and the Minnesota Department of Commerce

# NEW: Industrial Refrigeration



- We estimate about 100 large industrial refrigeration >1000hp
- State-wide opportunity

# DOE Refrigeration Outreach

- Technical association participation
- National quality efficiency training
- National quality energy assessments
  - User, utility, and MnTAP work together
  - Site provides 33% of the assessment funds
  - Opportunity for Investment Grade Audit
- Opportunity for further service and follow-up

# Can MnTAP Help Your Clients

- Process Improvements
- Lean Manufacturing Projects
- Broad Industry Expertise
  - Food processing
  - Chemical manufacturing
  - Metal Fabrication and Coating
  - And many others

# Assistance Resources

- Website – [www.mntap.umn.edu](http://www.mntap.umn.edu)
  - Industrial Energy Efficiency  
(<http://www.mntap.umn.edu/resources/reports/DOC/index.html>)
- Newsletters
  - Source - <http://www.mntap.umn.edu/source/index.htm>
  - Enews, Case Studies
- Contact MnTAP
  - Email [mntap @umn.edu](mailto:mntap@umn.edu)
  - (612) 624-1300



## Minnesota Technical Assistance Program

### MnTAP'S MISSION

Helping Minnesota businesses develop and implement industry-tailored solutions that prevent pollution at the source, maximize efficient use of resources, and reduce energy use and costs to improve public health and the environment.

[View our confidentiality policy](#)

### RECENT NEWS & EVENTS

**News: [Minnesota Businesses are Conserving Energy, Reducing Waste, and Saving Money.](#)** Over 200 businesses worked with MnTAP in 2011 to evaluate waste, water use, and energy use. Businesses that implemented changes are realizing reductions of over 5 million lbs of waste, 13.8 million gallons of water, and 7.7 million kWh and 2.1 million therms of energy.

See More: [News](#) | [Events](#)

### SOURCE NEWSLETTER



MnTAP's Source newsletter contains information to help you take action on your waste and energy issues. It also recognizes companies that have been successful. [View the current issue.](#)





# Minnesota Technical Assistance Program

*Helping Minnesota businesses implement industry-tailored solutions that maximize resource efficiency, increase energy efficiency, reduce costs, and prevent pollution*

***Thank You***

*Mark Powers  
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