



Improving Efficiency in FRP Operations [t](#) [f](#) [in](#)

P2 Assessments Save Money and Reduce Waste for E3 in FRP Project Participants

One component included in every [E3 project](#) is a pollution prevention (P2) assessment. P2 assessments allow MnTAP staff members to gain a better understanding of your facility's processes in order to identify strategies for reducing solid or hazardous waste, reducing water use, and improving efficiencies.

Your facility can benefit from a P2 assessment by learning more about waste reduction opportunities specific for your operations. A MnTAP scientist or engineer will walk through your facility with you to identify processes, procedures, or products that are generating waste, are toxic to the environment, or might be using resources inefficiently.

MnTAP will prepare a report outlining customized solutions that can reduce your facility's environmental impact while saving money. To learn more about pollution prevention planning and to recognize opportunities at your facility, see [The Minnesota Guide to Pollution Prevention Planning](#).

Did you know...

Compressed air systems are the least efficient and sustainable plant utility? Over 50% of compressed air systems at medium sized facilities have energy and cost saving opportunities, according to energy audits done by the US Department of Energy. It takes 8 hp of fuel to generate the electricity for 1 hp of compressed air. A compressed air system can represent up to 20% of your total electrical usage and a savings of 25% can result by taking advantage of some of these simple conservation opportunities:

- **Reduce System Demand** – identify alternative methods like using fans to cool electrical cabinets, blowers to agitate, aspirate, cool, mix, and inflate packaging; and use low-pressure air for blow guns and air lances. Disconnect the compressed air source from unused equipment.
- **Minimize Leaks** – A leak audit uses an ultrasonic listening device to find and

identify leaks and provides an estimate of the volume and value of the escaping air. Leaks can even be found in noisy 24/7 environments. Compressed-air system leaks can be costly; each 1/8" diameter hole in a 100 psi system can cost you more than \$1,200 per year. Fixing leaks will also reduce plant noise.

- **Improve Controls** – Variable Frequency Drives (VFD) allow for continual operation at the desired pressure, and VFD's can provide up to 35% energy savings compared to conventional cycling. Pressure control valves or flow controllers can help provide efficient delivery of the air from source to point of use.
- **Optimize System Pressure Setpoint** - Reducing system pressure by 2 psi can save 1.5% on your operating costs. Make sure the air pressure at your equipment is only what you need- many times the air pressure at the equipment is far greater than what the equipment needs. Try to step down the system pressure over the course of a week or two and see how low you can go before any one notices!
- **Installing High Efficiency Air Nozzles** – These nozzles can reduce demand by 50% or more by projecting a more precise air jet of air for blow-off applications, and also reduce perceived noise levels.
- **Take advantage of rebates** - Rebates are offered by Excel energy: https://www.xcelenergy.com/Save_Money_&_Energy/Rebates.
- **Check the MnTAP website** for more compressed air tips: <http://www.mntap.umn.edu/greenbusiness/energy/82-CompAir.pdf>.
- **Learn about your energy usage and identify conservation opportunities** - use MnTAP's [Compressed Air Tool](#) designed for businesses with simple compressed air systems.

This is the fourth in a series of newsletters providing helpful tips on how to improve YOUR economic results, energy efficiency, and environmental impact! Stay tuned for the next newsletter which will focus on green chemistry strategies for reducing hazardous chemical use.

Let us know if you are interested in getting involved in the E3 project, and send us your ideas for future newsletter topics! Contact Jane Paulson, MnTAP Senior Engineer, at janep2@umn.edu. If you are not the appropriate recipient for this email or if you know of additional people who should receive this communication, please send their email addresses to mntap@umn.edu.

The Minnesota Technical Assistance Program would like to thank the Minnesota Pollution Control Agency (MPCA) and the US EPA Office of Pollution Prevention for financial support of this project.

To ensure continued delivery, add mntap@umn.edu to your safe senders list or address book.

This email was sent by [the Minnesota Technical Assistance Program](#) at the [University of Minnesota](#), 200 Oak Street SE, Suite 350, Minneapolis, MN, 55455. Please read the University of Minnesota's [mass email privacy statement](#).

©2014 Regents of the University of Minnesota. All rights reserved.

The University of Minnesota is an equal opportunity educator and employer.