



P2 Bulletin

the newsletter of the New York State Pollution Prevention Institute (NYSP2I)

JANUARY 2011

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What's happening in P2

NYSP2I Lean, Energy, and Environment (LE2) Program

NYSP2I's *Lean, Energy, and Environment* (LE2) program is a pilot project funded by the New York State Department of Environmental Conservation (NYSDEC) and a grant from the New York State Energy Research and Development Authority (NYSERDA). The purpose of this program is to demonstrate and implement underutilized and innovative LE2 techniques within the New York State industrial sector.

LE2 combines the concepts of the U.S. Environmental Protection Agency's *Lean and Energy* and *Lean and Environment* programs into a single program, whereby practical strategies and techniques are used to improve process efficiency while reducing energy use, overall costs and achieving environmental performance goals. Through this project, NYSP2I is working with the Regional Technical Development Centers (RTDCs) and area energy consultants to conduct process assessments for 15 manufacturing companies across the state. Of these assessments, three to five projects will be selected to receive funding toward equipment needed to implement the process improvements identified through the assessment. In order for a company to receive funding towards equipment, the proposed solution must be innovative or the technology must be under utilized in New York State.

This spring, NYSP2I will complete the last of the 15 assessments. At least four of the 15 projects have met the eligible criteria thus far. The first implementation project has been initiated at Gleason Works located in Rochester, NY. NYSP2I has also encouraged several participating companies to pursue funding through NYSERDA's *Existing Facilities Program*, since they will realize a greater economic benefit through that program. The LE2 Project will conclude with demonstrations or presentations on the implemented process improvements (see example below).



image provided by and used with permission from Gleason Works

LE2 Implementation: Case Study

Gleason Works (Gleason) is located in Rochester, NY and is a global leader in the technology of gearing.

As part of its operations, Gleason is currently running copper, black oxide and chrome plating lines. The plating process is used to apply coatings for machining, corrosion protection, and for selective case hardening on various products that must be heat treated. It is a critical process supporting one of Gleason Work's core competencies, the Heat Treat and Plating Department.

The chrome, copper and black oxide plating lines all have rinse tanks to remove any heavy metal residue. Since regulatory requirements limit the amount of dissolved heavy metals and other effluents that can be released into the sewer system, Gleason Works needs to clarify its wastewater and reduce metals to an acceptable level.

The energy efficiency measures that were evaluated at Gleason Works include replacing the existing electro-precipitation rinse water treatment system with a reverse osmosis system combined with a deionization system. The energy consumption of the existing water treatment is 192,196 kilowatt hours per year at a total electricity cost of \$15,376 per year to Gleason Works. The cost savings were calculated based on the replacement of various components of the plating system. **The expected savings are 141,596 kilowatt hours per year, resulting in a cost savings of \$11,328 to the company.**

2010-2011 Community Grants Program Recipients

NYSP2I received 22 applications for the 2010-2011 Community Grant Program Request for Proposal. The total amount requested was \$206,518.

Applications were received from many areas throughout New York State – including Syracuse, Buffalo, Colton, New York, Brooklyn, Monticello, and Long Island. Although excellent applications were received, NYSP2I was only able to fund 6 projects. During

the P2 Bulletin's Special Edition, more information will be provided on this year's grantees as well as highlights from past projects.

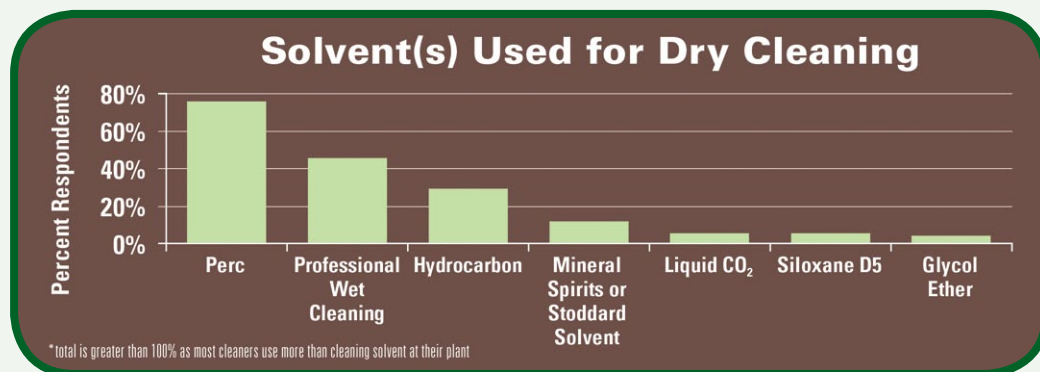
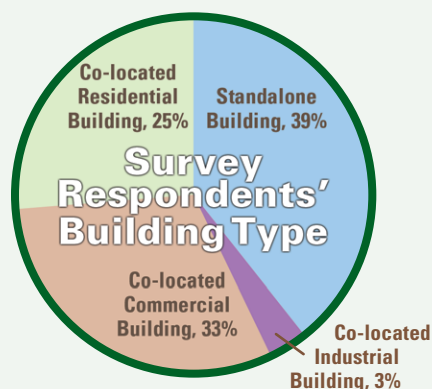
The projects funded for the 2010-2011 period are:

- Clean Air Coalition of Western NY Air Pollution Prevention Program
- Child Care Council Eco-Healthy Childcare Council and Kids Program

- Going Coastal Green Edges, Clean Blueways
- UPROSE Sunset Park Clean Air, Clean Water & Climate Health Initiative
- Pratt Center for Community Development Retrofit NYC, Block by Block
- Monroe County Department of Environmental Services Pollution Prevention Education for Municipal Operations

NYS Wet Cleaning Program Update: Dry Cleaning Survey Results

Last summer, over 2,000 surveys were mailed to New York State dry cleaners to understand the state of dry cleaning in New York and investigate the use of and attitude towards professional wet cleaning (PWC) as an alternative to perchloroethylene (perc) in dry cleaning. Approximately 5% of the surveys were completed and survey results will be used to develop educational and outreach materials to dry cleaners. Highlights of the survey results are below, please contact NYSP2I for full results.



Results Highlights:

- There is a correlation between the geographic location of drycleaners and the type of buildings they are located in. Approximately 96% of the co-located residential cleaners are in the greater New York City area and 83% of upstate New York cleaners are located in standalone buildings.
- Many cleaners use multiple cleaning solutions, and an average dry cleaner's business is composed of 61% dry cleaning, 10.7% PWC, and 27.3% laundering.
 - 30% of cleaners plan to purchase new dry cleaning equipment in the next 5 years and 67% plan to purchase in the next 10 years.
 - 86% of cleaners identify themselves as "very knowledgeable" about perc while 53% identify themselves as "very knowledgeable" about PWC; 57% agree that most cleaners do not know a lot about PWC. Lack of knowledge about PWC may be one reason why more cleaners do not use PWC in their cleaning operations.
 - Two-thirds of survey respondents are interested in using PWC, half are interested in using perc, and slightly less than half are interested in using hydrocarbon at their dry cleaning plant.

New York State Printing Industry Report

A study of the New York State commercial printing industry was recently completed by NYSP2I in partnership with the Center for Integrated Manufacturing Studies (CIMS) at RIT in collaboration with the New York State Energy Research and Development Authority (NYSERDA), and RadTech International.

The study aimed to identify business and technology related opportunities that would enable the state's printing industry to competitively position itself in the national and global market as innovative, technology driven, adaptive and sustainable.

Key data and statistics from the study related to environmental dimension are summarized below:

Respondents of the study (10% response rate):

- Use more than **22.7 million kWh's** of electricity annually and over **241,000 therms** of gas annually. Total electric and gas costs represent, on average, 1-2% of total revenue per printing establishment.
- Use more than **4.4 million gallons of water** for their operations annually.
- Used over 21,500 gallons of chemicals in their operations in 2009. The majority of chemical use was in the "press" process of printing operations.

The majority of waste (more than 95% by volume) generated by respondents was solid waste (primarily paper and cardboard). Respondents generated more than 10.5 million pounds of solid waste in 2009. Other waste generation included:

- 372,000 pounds of wastewater discharge
- 12,100 pounds of hazardous waste
- 3,500 gallons of hazardous waste
- 650 pounds of air emissions

All the respondents indicated that their company has an existing **Recycling Policy** and recycle over **10.2 million pounds of paper** annually.

64% of respondents stated that their customers are interested in "sustainability" and the same respondents note that customers have influenced their business practices as it pertains to sustainable practices. In fact:

- 38% of respondents have an existing/active corporate **Sustainability Policy** in place.
- 31% of respondents have an existing/active corporate **Environmental Policy** in place.
- 23% of respondents have an existing/active corporate **Energy Policy** in place.

The top sustainability and environmental concerns/issues identified by the respondents include:

- Reducing/recycling materials including wooden pallets
- Indoor air quality
- Enhancing the recyclability of label/liner materials and adhesives
- Maintaining a profitable business while meeting or exceeding sustainability goals is a core concern of many companies
- Lack of recycling options for pressure-sensitive adhesives (PSA)

The final report of this study will be published at www.nysp2i.rit.edu during the first quarter of 2011.

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Influences on National & State Printing Industry Competitiveness

Based on the study, there are five major influences that are presently impacting the competitiveness of the NYS commercial printing industry.



Upcoming Workshop

METAL FINISHING BEST PRACTICES WORKSHOP

February 9, 2011, in Utica, NY

At the Metal Finishing Best Practices Workshop, NYSP2I will give an overview of cleaning steps such as: water use in rinsing, alkaline cleaner use, and acid use. Further consideration will be given to:

- ♦ water conservation in rinsing
- ♦ energy cost of ventilation (plating, VOC destruction, etc.)
- ♦ cost of wastewater disposal vs. recovery
- ♦ chemical life extension, chemical recovery
- ♦ acid etch and alkaline cleaner life extension and recovery

Case studies will be presented where process improvements were made to decrease costs and reduce environmental impacts.

Contact NYSP2I for more information.

Past Workshop

ECO TOY DESIGN WORKSHOP

On November 18, NYSP2I and the New York State Consumer Protection Board (NYSCPB) were invited to the Fashion Institute of Technology in New York City to jointly present to the toy design students. Eighteen junior class students attended the presentation, where Paula O'Brien, NYSCPB, discussed New York State toy safety regulations and Kate Winnebeck, NYSP2I, discussed toxic chemicals that have been found in toys and how toy designers

can avoid them. You can access the

presentation on the NYSP2I

website, under

Workshops Archives.



Anahita Williamson accepts a check from Gates Chili High School seniors, from left, Zachary Goole, Michael Leimberger and Brandon Garbacz. Gates Chili High School students conducted a recycling campaign at their school and donated the proceeds to the NYS Pollution Prevention Institute. Anahita Williamson shared several pollution prevention initiatives with the students in order to target the funds for specific uses.



Tracy Freas, NYSP2I Senior Staff Engineer (center) accepts cell phones donated on the RIT campus for the Cell Phones for Soldiers program. The phones will be recycled and resold with proceeds used to purchase calling cards given to American soldiers serving around the world. Assisting in the collection were (left to right) Tish Purcell and 2LT David Jakubiec of RIT's Army ROTC, and Captain Patricia Skutnik and Elizabeth Weaver of RIT's Air Force ROTC. In total, the RIT community donated 119 cell phones along with accessories that may have otherwise ended up in landfills.



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