

Achieving Pollution Prevention Success: Conserving Resources through On-Site Technical Assistance and Pilot Evaluations in Illinois

Grantee: Board of Regents, University of Illinois, Illinois Sustainable Technology Center

Title: Illinois Conservation of Resources and Energy Program

EPA Funding: \$109,278

Total Funding: \$218,556

Project Period: 10/1/2015 - 9/30/2016

EPA Pollution Preventionⁱ Grant Number: 00E01525

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Project Description

Funded by a 12-month U.S. Environmental Protection Agency (EPA) Pollution Prevention (P2) grant, the Illinois Sustainable Technology Center (ISTC) at the University of Illinois implemented the Illinois Conservation of Resources and Energy (ICORE) project, targeting small manufacturers – including food manufacturers -- in underserved communities. ISTC assisted 27 businesses, conducting P2 assessments at 18 businesses. ISTC marketed their servicesⁱⁱ, recruited participants and local partners, conducted on-site assessments, and recommended improvements to the facilities.

As a result of the technical assessments, the grantee made more than 200 recommendations, 42% of which were implemented by the end of the project period. Recommendations were made to improve electrical and compressed air use, natural gas and water use, management and use of hazardous and non-hazardous waste and materials.

In addition to on-site P2 assessments, ISTC conducted pilots at eight manufacturers to demonstrate the use and benefits of LED lighting demonstrations which result in 50% savings and significant environmental benefits over traditional high intensity discharge lighting. Five of the companies adopted the LED technology by the end of the project period for a savings of \$46,262 annually.

Results

The ICORE project exceeded its goals for water savings, greenhouse gas emissions reductions, cost savings and number of participants recruited and assisted. Implemented recommendations saved \$679,803 for the participating businesses. Environmental benefits are as follows:

- 4.2 million gallons of water savedⁱⁱⁱ
- 6,889 metric tons of greenhouse gas emissions^{iv} (MTCO_{2e}) reduced
- 38,804 Therms of natural gas saved

ⁱ Pollution Prevention involves the reduction or elimination of pollution at the source by modifying production processes, using less toxic substances, implementing resource conservation techniques, conserving water and energy, and reducing greenhouse gases. Energy and water conservation, hazardous materials and greenhouse gas reductions, and cost savings are all benefits of a P2 approach. EPA provides grant assistance to states and tribes to help businesses identify and implement P2 practices.

ⁱⁱ For a sample presentation, see: <https://www.youtube.com/watch?v=TnWljd-YarY&feature=youtu.be>

ⁱⁱⁱ To calculate the equivalent of the water saved (equivalent to the amount of water in 8.5 Olympic-size swimming pools), Olympic sized swimming pool capacity of 660,000 gallons was used to calculate the water savings. The 600,000 gallon value was found at EPA's Water Trivia Facts found at: http://water.epa.gov/learn/kids/drinkingwater/water_trivia_facts.cfm

^{iv} To calculate the equivalent of the greenhouse gas emissions reduced (equivalent to removing 1,478 cars from the road each year), we used a value of 4.75 MTCO_{2e} emitted from the average vehicle, and using that, we calculated the equivalent. The 4.75 MTCO_{2e} value is from EPA's GHG-equivalencies online calculator located at: <http://www2.epa.gov/energy/ghg-equivalencies-calculator-calculations-and-references>