Colleagues at Pfizer’s Kalamazoo manufacturing plant are implementing a process that uses waste to clean equipment. This is reducing the amount of chemical by-products that are typically discarded by more than 25 percent, and is on target to save over $1 million this year.

The Kalamazoo API (Active Pharmaceutical Ingredients) Cleaning Solvent Project eliminates the need for expensive high-purity solvents, such as methanol or acetone, to clean equipment. Instead, it uses a high-quality recycled solvent mixture created from distilled solvents, which can be used to dissolve leftover product residue from the equipment as part of cleaning.

Manufacturing plants, including Kalamazoo, typically reuse solvents after distilling them. But all experience some loss due to the nature of the recovery process. This lost product is present as a by-product or waste stream, which is not reintroduced into the plant; instead it is shipped off-site and sold to an outside company for minimal cost to cover shipping.

The idea of the project was to see if we could use this by-product stream for other purposes. It still had the characteristics needed for cleaning site equipment because it didn’t have to be 100 percent pure for cleaning purposes.

Since the API Cleaning Solvent Project was implemented the number of gallons of by-product solvent sold per month has dropped from 40,000 to 29,000.

The process has been implemented on a subset of the active ingredient equipment in three of the largest manufacturing buildings at the site, and plans to expand the project through more processes and equipment are already under way.

The average volume of sold by-product is expected to continue to decrease as more processes and equipment are validated for use.

This project was honored by Pfizer Global Supply (PGS) with a 2009 Pfizer Green Chemistry Award, which recognizes the efforts of individuals and teams in reducing the environmental impact of the company’s manufacturing processes.