

Ecology Services Add Value to Business

\$56 million saved. That's what Washington businesses said Pollution Prevention Planning has done for them since 2005. That \$56 million saved would pay for **1,100 jobs**¹. The actual total is probably much higher since businesses are not required to report cost savings. Pollution Prevention Planning is just one of Ecology's programs that help businesses reduce costs and avoid risk while protecting the environment.

Businesses save \$2 for each pound of waste eliminated, according to the U.S. Environmental Protection Agency (EPA). This is borne out by actual savings reported by Washington businesses. Ecology's pollution prevention experts advise businesses on how to reduce the amount of hazardous substances they use and the amount of dangerous waste² they produce.

Ecology's Services

Pollution Prevention Planning

Certain businesses that use hazardous products or generate dangerous waste are required to prepare plans for voluntarily reducing these potential sources of pollution. With Ecology's help, these businesses found ways to **eliminate 61 percent (approximately 183 million pounds) of Washington's total annual dangerous waste** during the 22 years of Pollution Prevention Planning. Reducing hazardous substances used and dangerous wastes generated saves money on management and disposal costs. This is how some more recent estimates by facilities amount to **more than \$56 million in cost savings since 2005**.

E-Team and Energy Audits

Thirty-six businesses saved more than \$2.7 million, thanks to Ecology's new E-Team energy audit program.

This effort saves enormous amounts of energy and money, and cutting carbon emissions – an estimated reduction of 22,500 metric tons to date. Ecology partners with local utilities and Washington State University on more complex audits.

Why It Matters

There are risks in using, storing, and disposing of hazardous substances. If mismanaged, these substances can get into water and soil where they may harm human health and the environment, or cause costly cleanup sites. The cheapest way to avoid these risks is to not use toxic chemicals in the first place.

Ecology's pollution prevention experts advise businesses on how to reduce the amount of hazardous substances used in their processes. In turn, this reduces the amount of dangerous waste generated. They also advise businesses to help them cut costs by reducing waste and conserving water and energy.

See the attachment for examples of businesses helped by the Department of Ecology's pollution prevention services.

For more information

See Ecology's Pollution Prevention website at

<http://www.ecy.wa.gov/programs/hwtr/reducewaste.html>. Read detailed stories of business successes at <http://www.ecy.wa.gov/programs/hwtr/P2/success/p2success.html>, or call your local [Ecology Regional Office](#).

Special accommodations

If you need this in a format for the visually impaired, call 360-407-6700. Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.

¹ Based on average Washington wage of approximately \$50,000, as compiled by the Bureau of Labor Statistics, U.S. Department of Labor.

² Washington law uses the term dangerous waste. Federal law uses the term hazardous waste. Washington's definition of dangerous waste includes some wastes that are not included in the federal definition.

Technical Resources for Engineering Efficiency (TREE)

More than \$3 million per year of savings are projected for the 35 companies Ecology's TREE Team assisted. This business service provides a team of engineers who are experts in industrial processes and pollution prevention, who may work over a period of several months with each business. They measure and conduct tests, and recommend ways to conserve water, energy, and materials, and cut waste. They go the extra mile in providing in-depth engineering expertise to small and medium-sized businesses that don't have in-house resources.

Lean and Green

Savings of \$2.1 million per year have been reported by the ten businesses who participated in Ecology's Lean and Green project. Many Washington businesses turn to Lean manufacturing techniques to improve their competitiveness. This approach identifies and eliminates wastes and non-value-added activities, without compromising the environment.

Ecology partners with Impact Washington, meshing Lean and pollution prevention to lower costs, improve quality, and reduce lead times. Ecology continues to develop capacity to provide more ongoing services for projects that combine Lean practices and environmental performance goals.

Local Source Control Partnership

Small businesses have benefitted from more than 10,000 voluntary technical assistance site visits by Local Source Control (LSC) Specialists from Ecology's 25 partner jurisdictions since 2008. Ecology and local jurisdictions are using this unique team approach to visit and educate business on controlling possible sources of pollution. This service is provided to businesses free of charge.

LSC Specialists review business practices and offer alternatives to the hazardous materials that are used, stored, and disposed of by each business. The specialists confer with business owners and managers to help them improve their practices regarding dangerous wastes, stormwater, solid waste, and spill prevention. This one-to-one approach is expected to improve both our state's urban water quality and each business's bottom line.

Building a Robust Washington

Small improvements by individual companies add up. By putting pollution prevention into practice across Washington State, we capture billions of dollars in cost savings and avoid liabilities while protecting the environment. This strengthens our economic position and helps all of us build a robust – and healthy Washington.

For more information about the benefits of pollution prevention and safe dangerous waste management, refer to [Enforcing Dangerous Waste Rules Prevents Pollution](https://fortress.wa.gov/ecy/publications/SummaryPages/1004029.html)³ and [Local Source Control Partnership](https://fortress.wa.gov/ecy/publications/SummaryPages/1304002.html)⁴. For more information about these and other topics, please visit www.ecy.wa.gov/programs/hwtr/index.html.

³ <https://fortress.wa.gov/ecy/publications/SummaryPages/1004029.html>

⁴ <https://fortress.wa.gov/ecy/publications/SummaryPages/1304002.html>

Attachment

Recent Pollution Prevention Success Stories from Around Washington State

Janicki Industries, a composite fabrication company, saved \$50,000 in 2011 by cutting their dangerous waste by 20,000 pounds. They lowered styrene emissions at their Hamilton and Sedro-Woolley facilities by switching to low pressure impingement spray and vacuum infusion for resin application. They are switching 80 percent of their wipe rags to durables, which do not have to be disposed of as dangerous waste.

Heath Tecna, Inc., an aircraft furnishings maker, estimates they can save \$100,000 from working with Ecology on Lean events. The Bellingham company cut their dangerous waste by 5,000 pounds per year. They also reduced their use of toxic material by 400 pounds per year. Lean helped them weather the recent economic downturn and they more than doubled the number of employees in the last three years.

Moses Lake Industries, Inc. (MLI) reported saving \$1,067,000 by reducing dangerous waste generation. They manufacture high purity chemicals for the semiconductor and electronics industries. In 2011, they cut dangerous waste generation by 11 percent, and treated almost 100 percent of it onsite. The company initiated numerous projects to reduce costs and increase production while reducing dangerous waste. MLI continues to improve their processes. They are currently working with Ecology's Pollution Prevention experts on a project to recycle spent copper electrolyte back into its process to save money and reduce environmental exposure.

NIC Global Manufacturing Solutions, Woodinville, saves \$150,000 each year through strategic pollution prevention. The company eliminated hexavalent chromium from their metal cleaning process. This allowed them to get a wastewater discharge permit. They no longer have to run an evaporator for the wastewater, and then pay to dispose of the resulting sludge as dangerous waste.

CellNetix, a pathology laboratory in Seattle, estimates the company saves up to \$180,000 each year from their Pollution Prevention Planning, and technical assistance from Department of Ecology. They achieve these savings by doing on-site recycling, finding beneficial uses for waste materials, and changing some purchasing practices. Dave Simpkins, CellNetix Safety Officer, sums it up, ".....you can find solutions that are socially and ethically responsible and save money by doing so. That's a simple choice."

TK Holdings in Moses Lake improved their processes to save money and improve worker safety. Working with Ecology staff, they found new ways to cut waste and conserve energy and water. The company is saving \$40,000 yearly by reducing energy consumption by 480,000 kWh. They also reduced their dangerous waste generation. Eliminating more than 84 tons of explosive waste saves \$844,970 and reduces risk and liability. New water strategies save \$40,000 and reduce water usage by 480,000 gallons annually.

Microconnex is saving \$47,000 in reduced labor, energy, and disposal costs through pollution prevention actions. The company designs and manufactures electronic circuits at their Snoqualmie facility. Ecology staff helped Microconnex understand the value they could realize by improving process flow. The company replaced their old wastewater evaporator with equipment that is cheaper and easier to use. This freed many work hours for higher value efforts.

Flexible Foam, a foam manufacturer in Longview, expects to save nearly \$11,000 each year. The company has actively pursued pollution prevention with Ecology's assistance. They cut their dangerous waste generation by an estimated 72 percent. They are also saving about 55,000 kWh per year by improving efficiency of their air compressors. And they save 180,000 gallons of water each year by regularly testing their pumps

Exotic Metals Forming Company, in Kent, reduced their dangerous waste by 8,000 pounds and cut their use of toxic substances by 6,600 pounds. The aerospace design and fabrication business saves \$3,000 yearly from just two changes: 1) they eliminated the use of trichloroethylene, a known cause of cancer, in their surface cleaning process; and 2) they installed a silver recovery unit that collects the toxic metal from their x-ray process.

Miners collected 500 pounds of Mercury statewide! Modern-day miners have teamed up with Ecology to remove mercury left in streams and rivers from gold rush days. In collaborative efforts over the past ten years, miners have collected more than 500 pounds of mercury from around the state, and brought it in to Ecology for safe disposal. Mercury is a contaminant of high concern. It persists in the environment and is extremely toxic to the human nervous system.

Pacific Northwest National Laboratory (PNNL) in Richland replaced a persistent and toxic solvent for degreasing. The company switched to a less hazardous solvent in 2012. PNNL will be able to perform degreasing processes with no added cost, while reducing regulatory requirements. Most importantly, they are reducing risks to workers and the environment.

Stowe Woodward, a Xerium Technologies company, is saving \$10,000 per year through pollution prevention efforts. The company makes roll coverings for the paper industry at their facility in Kelso. The Xerium Technologies company stepped up to the challenge of preventing pollution when they formed an internal committee in 2010. Since then they have installed more energy-efficient lighting, began recycling metals, switched to less-toxic solvents and non-hazardous synthetic rubber, and eliminated lead as a raw material. They use hot air from the boiler room to heat the shop floor in the winter. These efforts show Stowe's concern for its employees, customers, and the environment. Xerium is starting these practices at its other facilities.

WaferTech LLC reduced their dangerous waste by more than 77 percent since 2003, while increasing production. The company manufactures semiconductors in Camas. Their products are used for computers, digital cameras, smart phones, and other electronics. Their impressive results can be attributed to actively seeking and finding good reuse and recycle opportunities for the company's largest waste streams, including sulfuric acid and solvent. WaferTech also reduced the amount of materials used in the production process, which cut costs for raw materials as well as for waste disposal.

Wilbur Ellis in Yakima dropped their dangerous waste generator status from the highest to the lowest level. The facility reported saving about \$10,000 a year in avoided pollution prevention planning fees and up to \$4,500 a year for dangerous waste disposal. Ecology's pollution prevention staff helped them improve their inventory control, rinsing procedures, and waste designation. As a result, they went from generating as much as 90,000 pounds of dangerous waste annually to zero. Wilbur-Ellis applied the lessons learned and new procedures at their other locations in Washington.

Energy Audits Projected to Save Businesses Thousands. Ecology used advanced techniques to help several companies find compressor air leaks that were wasting energy and money. Once found, the leaks are often relatively cheap and easy to fix. Doing so is expected to help **Protective Coatings, Inc** cut more than \$18,000 per year from the electricity bill at their Kent facility. And, **Watson Furniture Systems** can save \$11,000 per year at their Poulsbo location. Conserving electricity also reduces green house gas emissions from power plants. The energy savings from these two companies will amount to an estimated reduction of more than 72,000 pounds of carbon dioxide (CO₂).