



COST SAVINGS AND ENVIRONMENTAL BENEFITS MEASUREMENT

Useful Tools for Calculating Cost Savings and Environmental Benefits of Projects

U.S. EPA's Pollution Prevention (P2) Program has developed P2 calculator tools to standardize the measurement of environmental and economic benefits of P2 implementation activities. Use of the tools ensures credibility and consistency. These tools focus on project-level performance results, providing examples of success. Navigation is made simple with color-coded tabs and clearly featured data inputs and outputs. Data sources and justifications are prominent, enhancing transparency.

EPA's Office of Chemical Safety and Pollution Prevention's P2 Program has developed tools to measure the environmental and economic benefits of projects that prevent pollution at the source, use greener substances, and conserve natural resources.

Environmental and Cost Metrics	Tabs in P2 Calculator Tools to Convert Results into Metrics
Reductions in <i>hazardous</i> inputs and releases (Pounds)	HAZARDOUS INPUTS AND RELEASES CALCULATOR Air Emissions (enter pounds) Water Effluent Discharges (enter units of effluent reduced, converts to pounds) Hazardous Waste (enter pounds or gallons, converts to pounds) Hazardous Inputs (enter pounds) Spent Solvents Remanufactured (conditions apply; enter pounds, formula applied)
Improvements in Energy Management (GHGs)	ENERGY MANAGEMENT CALCULATOR Electricity Management (enter units of electricity) Renewable Energy (enter units of green energy, offsets fossil energy units; enter any Renewable Energy Certificates purchased) Stationary Sources (enter units of fuel reduced or substituted, formula for offsets) Mobile Sources (enter units of fuel reduced or substituted, formula for offsets) Greening Chemistry (enter pounds of a high global-warming-potential chemical reduced or substituted, formula for offsets) Water Conservation (enter gallons reduced; formula converts waterworks energy reduced) Solvent Remanufacturing (enter unit of solvent, calculates reduced fuel use and stored carbon not released)
Reduced water consumption (gallons)	No calculator needed; use water meter information.
Cost savings associated with reducing hazardous pounds, energy use, and water consumption	COST SAVINGS CALCULATOR Hazardous Inputs and Wastes (enter inputs units and costs; enter waste units, linked to state fees) Air Emissions (enter units, linked to state fees) Water Pollution (enter units, linked to state fees) Water Use (enter units, linked to utility rates) Fuel Use (enter units, linked to fuel prices; enter units for fuel substitutions, will offset) Electricity Use (enter units, end-user rates: offsets for purchase of green electricity)

Summary descriptions of the tools are provided below. Source: <http://www.epa.gov/p2/pubs/resources/measurement.html#calc>

P2 Cost Savings Calculator. The P2 Cost Savings Calculator calculates the net cost savings realized from avoided fees and expenses associated with buying fewer hazardous inputs, shipping less hazardous waste, emitting fewer air emissions, using less water, sending less wastewater through pre-treatment and treatment works, and better managing fuel and energy. The net cost difference of buying greener materials, fuel and energy is also calculated. Facilities can determine their potential cost savings using this tool.

P2 Energy Management (GHG) Calculator. This Calculator converts common business units for energy and chemical management improvements into units needed for the P2 Program's GHG measure.

Hazardous Inputs and Releases Calculator. This calculator converts common business and reporting units for air emissions, effluent discharges, hazardous waste, and hazardous material inputs into the pound unit needed for P2 Program measures. The scope of this tool includes a tab for calculating hazardous release reductions from the remanufacturer of hazardous secondary materials (high value spent solvents).