

## MEASURING IMPACTS OF POLLUTION PREVENTION GRANTS

Applicants that are awarded EPA Pollution Prevention Grants must report the environmental and economic benefits achieved across all media from the implementation of the grant, which helps achieve EPA's P2 targets. The P2 GHG Calculator, P2 Cost Calculator, Hazardous Pound Calculator and P2 GrantsPlus Reporting Database that EPA offers grantees have potentially wider application.

EPA's Office of Chemical Safety and Pollution Prevention (OCSP) administers Pollution Prevention (P2) Grants, which fund technical assistance and training to help businesses implement pollution prevention practices. The P2 Grants are supported by EPA's P2 Program, which aims to prevent pollution at the source, promote the use of greener substances, and conserve natural resources while contributing to a greener and more sustainable economy.

An applicant receiving a grant must report the environmental and economic benefits achieved across all media from P2 approaches implemented under the grant. Pollution prevention grantees have been reporting on these outcomes since 2005. Below describes P2 Program outcome metrics and how grantees can use program calculator tools to report their results for these metrics.

P2 Program Metrics	Tabs in P2 Calculator Tools (that Grantees Use to Convert Results into Metrics)*
Reductions in <i>hazardous</i> releases and hazardous inputs (Pounds)	HAZARDOUS POUNDS CALCULATOR <ul style="list-style-type: none"> <li>• Air Emissions</li> <li>• Water Effluent discharges</li> <li>• Hazardous Waste</li> <li>• Hazardous Inputs</li> <li>• Spent Solvents Remanufactured</li> </ul>
Reductions in greenhouse gas releases (Metric tons of carbon dioxide equivalent— MTCO <sub>2e</sub> )	GREENHOUSE GAS CALCULATOR <ul style="list-style-type: none"> <li>• Electricity Conservation</li> <li>• Green Energy</li> <li>• Stationary Sources (fuels)</li> <li>• Mobile Sources (fuels)</li> <li>• Greening Chemistry (high global-warming-potential chemicals)</li> <li>• Water Conservation (waterworks energy reduced)</li> <li>• Solvent Remanufacturing (reduced fuel use and stored carbon)</li> </ul>
Reduced water consumption (gallons)	No calculator needed; use water meter information.
Cost savings associated with reducing hazardous pounds, MTCO <sub>2e</sub> , and water consumption.	COST SAVINGS CALCULATOR <ul style="list-style-type: none"> <li>• Hazardous Inputs and Wastes</li> <li>• Air Emissions</li> <li>• Water Pollution</li> <li>• Water Use</li> <li>• Fuel Use</li> <li>• Electricity Use</li> </ul>
To view environmental and economic benefits achieved from past P2 grants, see: <a href="http://www.epa.gov/p2/pubs/resources/measurement.html#who">http://www.epa.gov/p2/pubs/resources/measurement.html#who</a>	
*Each bullet represents a tab in the tool. Tools are described further below.	

### Useful Tools for P2 Reporting

As noted above, EPA offers several tools to grantees for reporting results from P2 grant projects. The P2 Program built P2 calculator tools to standardize the measurement of environmental and economic benefits of P2 implementation activities. The tools use calculations from lead media programs to ensure credibility and Agency consistency. These tools focus on project-level performance results (not facility footprints) and provide project-result examples. Navigation is made simple with color-coded tabs and clearly featured data inputs and outputs. Data sources and justifications are prominent, enhancing transparency. In the future, the calculators will migrate to an integrated web application. Summary descriptions of the tools are provided below.

**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 buying less fuel and energy. The net cost difference of buying greener materials, fuel and energy is also calculated. Prospective program beneficiaries can see their potential cost savings using this tool. Since the P2 Program measures only hazardous-pound reductions, the tool provides just a national-default fee for nonhazardous waste.

Source: <http://www.epa.gov/p2/pubs/resources/measurement.html#calc>

**P2 Greenhouse Gas Calculator.** The P2 GHG Calculator calculates GHG emission reductions from electricity and fuel conservation, green energy, fuel and chemical substitutions with lower GHG intensities, water conservation, and improved hazardous materials and process management in chemical manufacturing. To calculate reductions in metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e), the tool uses formula conversions for energy and fuel factors, and molecular carbon analysis for hazardous chemical/material factors.

Source: <http://www.epa.gov/p2/pubs/resources/measurement.html#calc>

**Gallons to Pounds Converter (soon to be Hazardous Pounds Calculator).** In its current state, this tool converts common business units into units needed for P2 Program measures. Hazardous materials are often in gallons for business purposes, such as gallons of various coatings, chemicals and fuels. This tool converts these gallons into the measure used by the P2 program, "pounds of hazardous materials reduced." The scope of this tool is being expanded to include tabs for calculating hazardous release reductions from the remanufacture of hazardous secondary materials (high-value solvents) and for calculating other components of hazardous releases reduced – air emissions, effluent discharges, hazardous waste, and hazardous material inputs.

Source: <http://www.epa.gov/p2/pubs/resources/measurement.html#calc>

### Requiring Grantees to Link Environmental and Economic Benefits to P2 Practices And Using a New Database to Record the Links

Standardizing measurement methodology has been an important step. Yet, a little more is needed for validating and understanding the environmental and economic results of P2 grants because clients of P2 grantees adopt a wide variety of P2 practices. Grantees often report their results at an aggregate or partially-aggregated level, without a breakout of specific P2 practices and specific environmental and economic benefits. When the P2 Program does receive grant reports that break out specific P2 practices and the related benefits, the program can more easily validate and understand P2 grant results. The challenge, for the P2 Program, is how to get more consistently the kind of grant reporting that breaks out specific P2 practices and specific gains, while keeping the effort manageable and sufficiently flexible for grantees.

The prospective solution relies on a change to the P2 Grant Program's Request for Proposals (RFP) and a matching, custom P2 GrantsPlus Reporting Database for Regional project officers, managers and eventually P2 grantees. The RFP has been changed to require grant applicants to state their plan for reporting actual results, at end-of-year, with a break out of implemented facility-level P2 practices and related environmental and economic gains. For project and records management, the new P2 GrantsPlus Database has a custom functionality that captures responses to the RFP-requirement and uploads grant reports as a simple way of capturing the break-outs that grantees provide. Equally important, the P2 GrantsPlus system provides enough convenience to project officers and the program overall for the database to be of general appeal for project management.

For grantees, the effort is kept manageable by relieving them of dispensable measurement steps and providing simple itemization templates in the RFP. The break out of facilities can be as simple as facility A, facility B, and so forth. Submission can be as simple as an attached file or a web link. The effort is kept flexible for grantees by providing them relief from facility-level itemization for clearly stated reasons of undue burden or confidentiality concerns.

For EPA staff and managers, the general appeal of the database for records management is its synchronicity with the EPA LAN and its project management features. These features, developed on an Oracle platform, include simple navigation, scrolling entries for multiple years, automatic date-stamp for entries, built-in note taking, custom searches and reports, online video training, and user support.

For more information on the P2 Grants Program, see: <http://www.epa.gov/p2/pubs/grants/>