



Pollution Prevention (P2) Program at ADEQ

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P2 Program

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Outline

- Arizona P2 Policy
- General Information About P2
 - What is P2?
 - Waste Management Hierarchy
 - Basic Arizona Pollution Prevention
 - P2 Benefits
- Basic P2 Plan Requirements
- ADEQ P2 Team
- Arizona P2 Program Achievements

Introduction

- Since the early 1970's, environmental protection programs in the U.S. have been directed primarily at *controlling* not *preventing* pollution.
- Pollution control programs, in general, have consisted of end-of-pipe approaches such as treatment, discharge, and disposal.
- Overall, these techniques have been effective, but environmental protection challenges still remain.



Introduction

- P2 evolved from a 1976 United Nations conference, called “Principles and Creation of Non-Waste Technology and Cleaner Production”
- The conference discussed the limitations of end-of-pipe approaches to environmental problem solving by asking:
 - *How much energy could be saved by reducing waste?*
- It became apparent that environmental protection challenges require a different approach.
- This approach involves continuing pollution control programs while at the same time developing and implementing broad-based P2 programs to eliminate or reduce the pollution at source.





Pollution Prevention Act

- The realization of reducing pollution at its source as the best way to protect the Earth and its people, became America's official policy in 1990 with the Federal Pollution Prevention Act's declaration that, "Pollution should be prevented or reduced at its source, whenever possible."



Arizona P2 Policy

- **The Arizona legislature adopted a state Pollution Prevention Policy in 1991:**
In the interest of protecting the public health and safety and the environment, the legislature declares that it is the policy of this state to:
 - 1. Encourage pollution prevention whenever technically and economically practicable, without shifting risks from one part of a process, environmental medium or product to another.**
 - 2. Reduce the amount of hazardous substances used and reduce the amount of hazardous waste generated in this state.**



Arizona P2 Policy

- In Arizona P2 Policy, P2 planning is required to reduce the amount of waste generated and toxic substances used to reduce risk to public health, safety and welfare, and the environment.

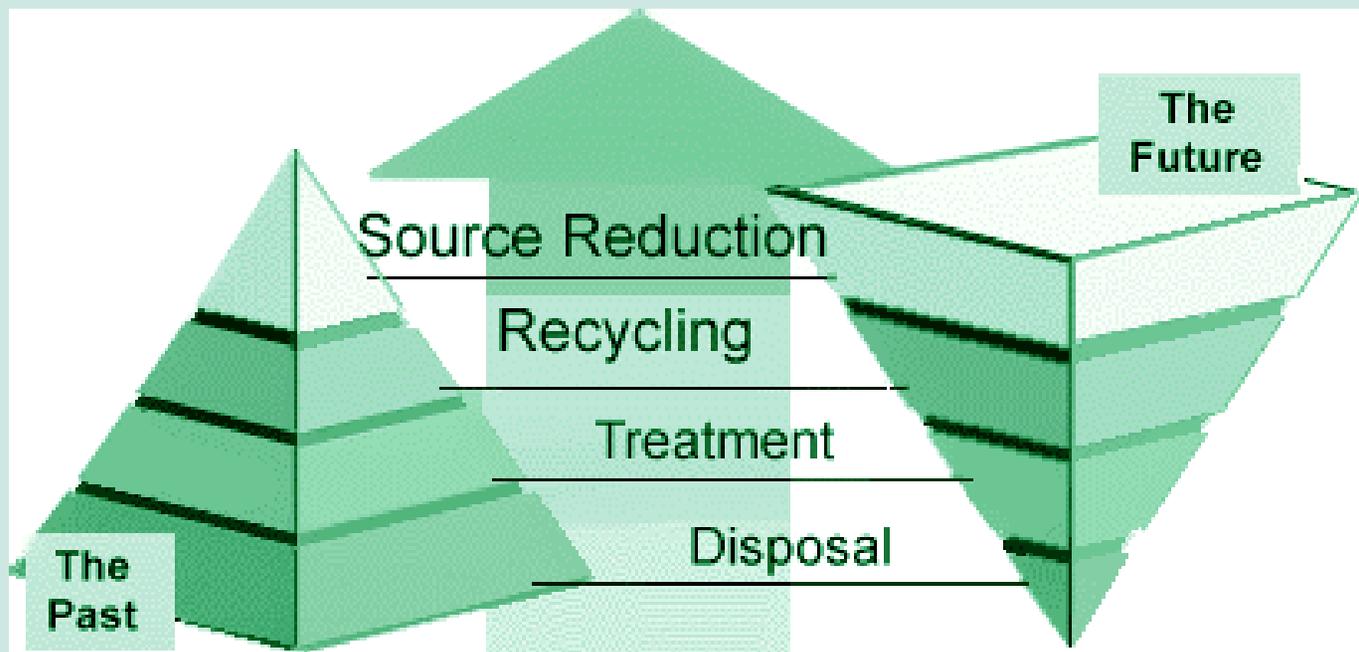
What is P2?

- P2 is an environmental management strategy that emphasizes the elimination or reduction of the use of toxic chemicals and wastes at the source of use or generation.
- P2 means making changes in operational procedures, processes and improvements in housekeeping or management techniques that reduce potential or actual releases of pollutants to the overall environment (air, water and land).



Waste Management Hierarchy

- Preventing pollution offers important economic benefits, since pollution never created avoids the need for expensive investments in waste management or cleanup.
- EPA does not consider recycling and reuse as P2 efforts.
- Educating industry and the general public on P2 is necessary to change from a culture that tolerates pollution to a sustainable one which increasingly eliminates pollution at the source.



A.R.S. § 49-961:

- Eliminate or reduce waste generation
- Eliminate or reduce toxic substance use
- Reduce total volume
- Inventory control
- **Recycling**
- **Reuse**
- Reclamation
- Substitution
- Changes in operating practices
- Conserve natural resources and materials (energy, water)
- Prevent spills and accidental releases.
- Prevent raw material and product losses.

P2 Benefits

- Reduced costs of waste treatment and disposal, raw materials purchases, and process operations
- More efficient use of raw materials, staff resources, equipment, energy and water
- Meeting or exceeding environmental requirements
- Reduced potential environmental liabilities
- Protection of employee health and safety and the environment
- Improved company's relationship with the public, neighbors and customers



What Is a P2 Plan?

- A Pollution Prevention Plan (Plan) is a stand alone management document that provides information on the facility operations that directly or indirectly produce waste or use toxic substances.
- A complete written P2 Plan analyzes the current work practices, outlines potential P2 opportunities and provides specific performance goals including a schedule for implementing these P2 activities.

The Plan should also provide:

- Measurable reductions (pounds, gallons, kWh, therms)
- Cost savings associated with the reductions
- Information on previously completed P2 activities





How to determine if your facility needs to file a P2 Plan:

- 1) Review Exemptions
- 2) Review Filing Thresholds

The P2 Program has determination forms with specific questions that facilities can complete. Once the forms are returned, P2 staff can review and determine if a P2 Plan is needed.

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1. Review Exemptions

- If a facility is exempt, a P2 Plan is not required, but may be voluntarily submitted. If the facility is not exempt, proceed to step 2.

Examples of exemptions:

- The facility is located on tribal land
- The facility is a household hazardous waste collection facility [A.R.S. § 49-961.2]
- All of the toxic substances are used or produced in connection with metallurgical or mining purposes (smelting, refining) [A.R.S. § 49-963.A]
- For additional information:
 - Refer to statutes [A.R.S. § 49-961, § 49-962, § 49-963]
 - Review page 66 of ADEQ's P2 Analysis and Plan Guidance Manual <http://www.azdeq.gov/function/forms/appswaste.html#p2>
 - Contact P2 staff

2. Review filing thresholds

If the owner or operator of a facility was required to file an annual Toxic Release Inventory (TRI) form (Form A or Form R) to EPA during the preceding calendar year
[A.R.S. § 49-962.A.1]

If a facility generated an average of **1 kilogram** per month of acutely hazardous waste or an average of **1,000 kilograms** per month of hazardous waste exclusive of an episodic, accidental or remediation related release or occurrence during the preceding calendar year
[A.R.S. § 49-962.A.2]

If a facility used in excess of **ten thousand pounds** of a toxic substance as defined in A.R.S. § 49-961 during the preceding calendar year
[A.R.S. § 49-963.D]



3. Complete a P2 Plan

Download the P2 Plan Guidance Manual and Forms

<http://www.azdeq.gov/function/forms/appswaste.html#p2>

- Complete a P2 Plan by December 31 of the year after the threshold was met for using in excess of ten thousand pounds of a toxic substance
- Complete a P2 Plan by July 1 of the year after the threshold was met for filing a TRI form or the year after the facility generated an average of 1 kg per month of acutely hazardous waste or 1,000 kg per month of hazardous waste



4. Maintain the Plan

Provide a Toxic Data Report (TDR) to the department each year on July 1, which includes:

- An Annual Progress Report on completion of the specific reduction goals which includes:
 - Completion status (on schedule; completed; delayed; dropped)
 - Reductions achieved and associated cost savings
 - [Annual Progress Report Instructions](#) are downloadable from our website

- An Annual Toxic Release Inventory (TRI) Report
 - U.S. EPA TRI Form A or Form R
 - When you submit your TRI electronically we receive the data
 - EPA's rule effective in January 2014: facilities have to submit TRI forms electronically unless they have a trade secret TRI.

- Any needed Plan Amendments
 - To make changes to an existing Plan
 - To extend the time frame of an existing Plan
 - To add new goals or amend existing goals



Process Review and Opportunity Development [A.R.S. §49–963.J.7]

P2 Analysis and Plan Guidance Forms - Sections 6 and 7:

- Describe the process steps
- Include a process flow diagram
- Why and where are the toxic substances used
- Discuss the wastes and emissions and include waste codes
- What happens to each waste and emission?
- Identify P2 opportunities (feasible or non-feasible)
- Fill out a goal form for each feasible P2 opportunity



Employee Awareness and Training Programs [A.R.S. §49-963.J.9]

P2 Analysis and Plan Guidance Manual- Section 9:

- Pollution prevention training documents must, as a minimum include:
 - A definition of pollution prevention
 - A description of the waste management hierarchy
 - The benefits of pollution prevention and
 - Information on how the employees can become involved in pollution prevention planning and implementation.
- P2 training goal
- Continue P2 training goal



Our P2 Team

- Collects, manages, and synthesizes the TDRs from approximately 260 facilities that include hazardous waste generators, TRI filers and toxic substance users.
- Provides technical assistance to facilities to eliminate or reduce their toxic substance use and hazardous waste generation
- Tracks and updates the P2 program information and results in an ACCESS program.
- Measures the reductions reported for solid waste (non-RCRA), air emissions, green house gases, water pollution, natural gas, hazardous waste, water conservation, electricity, and hazardous materials.
- Participates in the National P2 Results Data System and inputs pollution reduction measurements into the reporting software for the Pollution Prevention Resource Exchange (P2Rx™).

Figure 1: Cumulative Hazardous Waste and Toxic Substance Use Prevented by Pollution Prevention

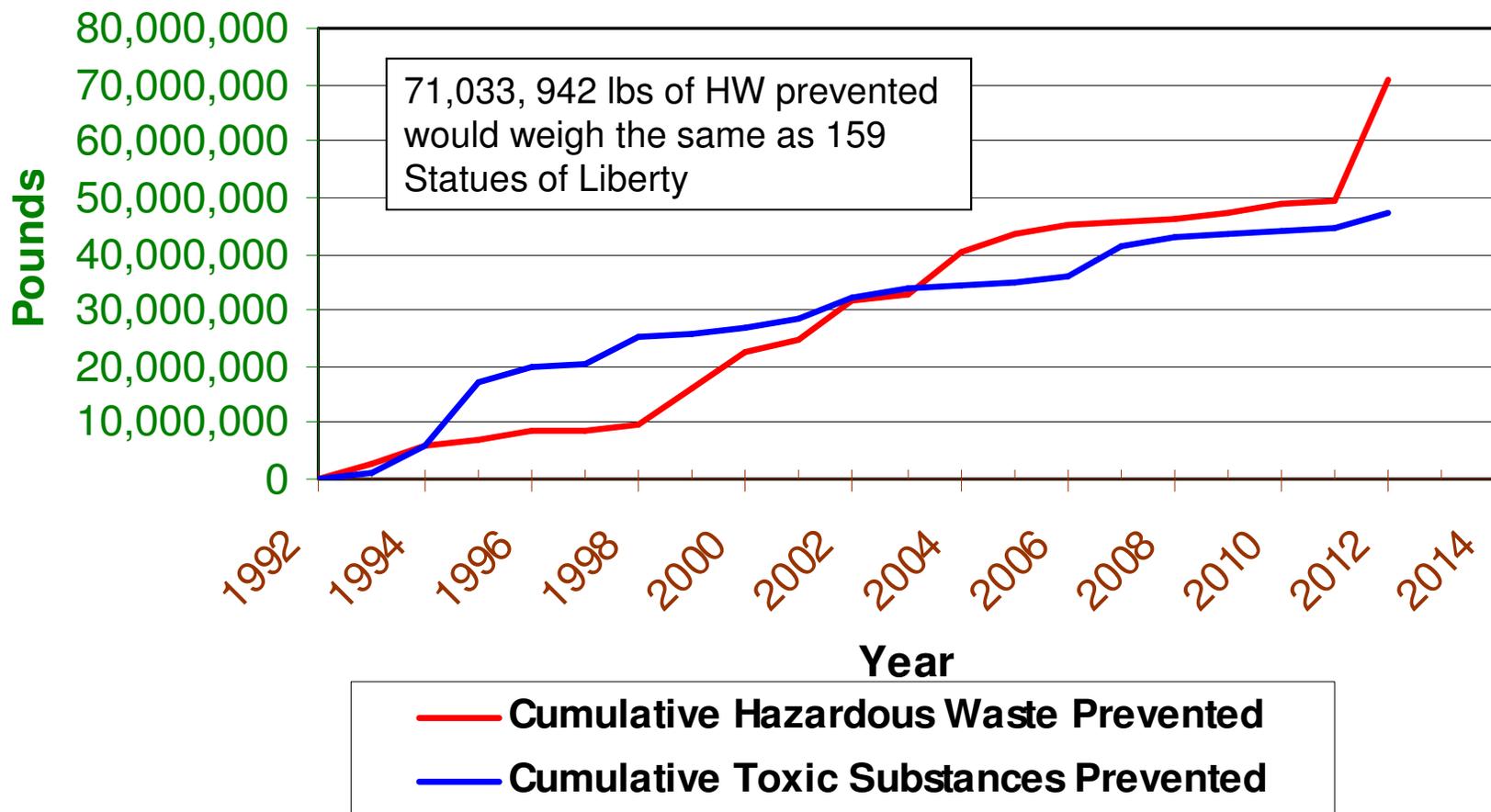


Figure 2: Electricity Use Prevented by Pollution Prevention

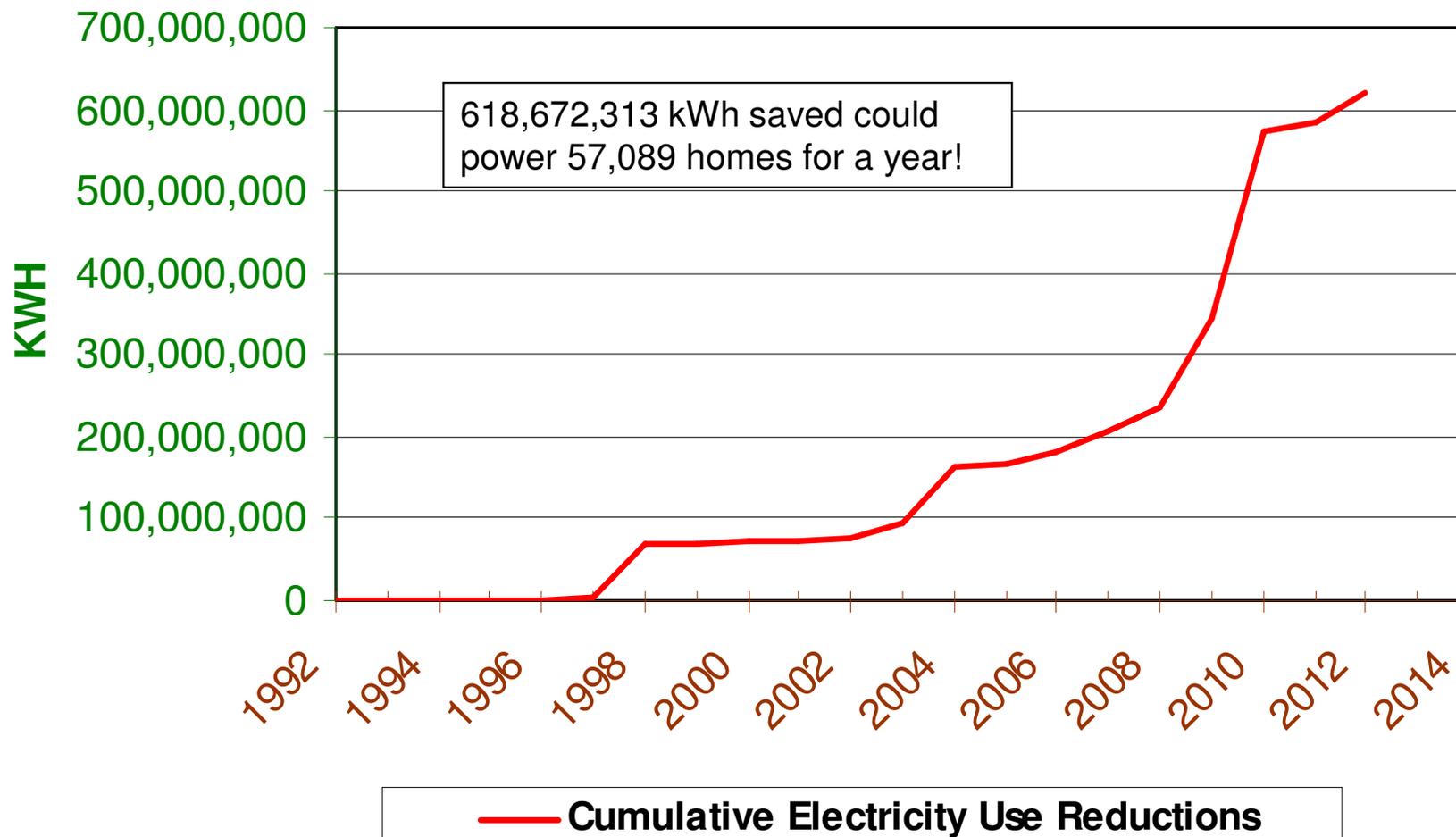
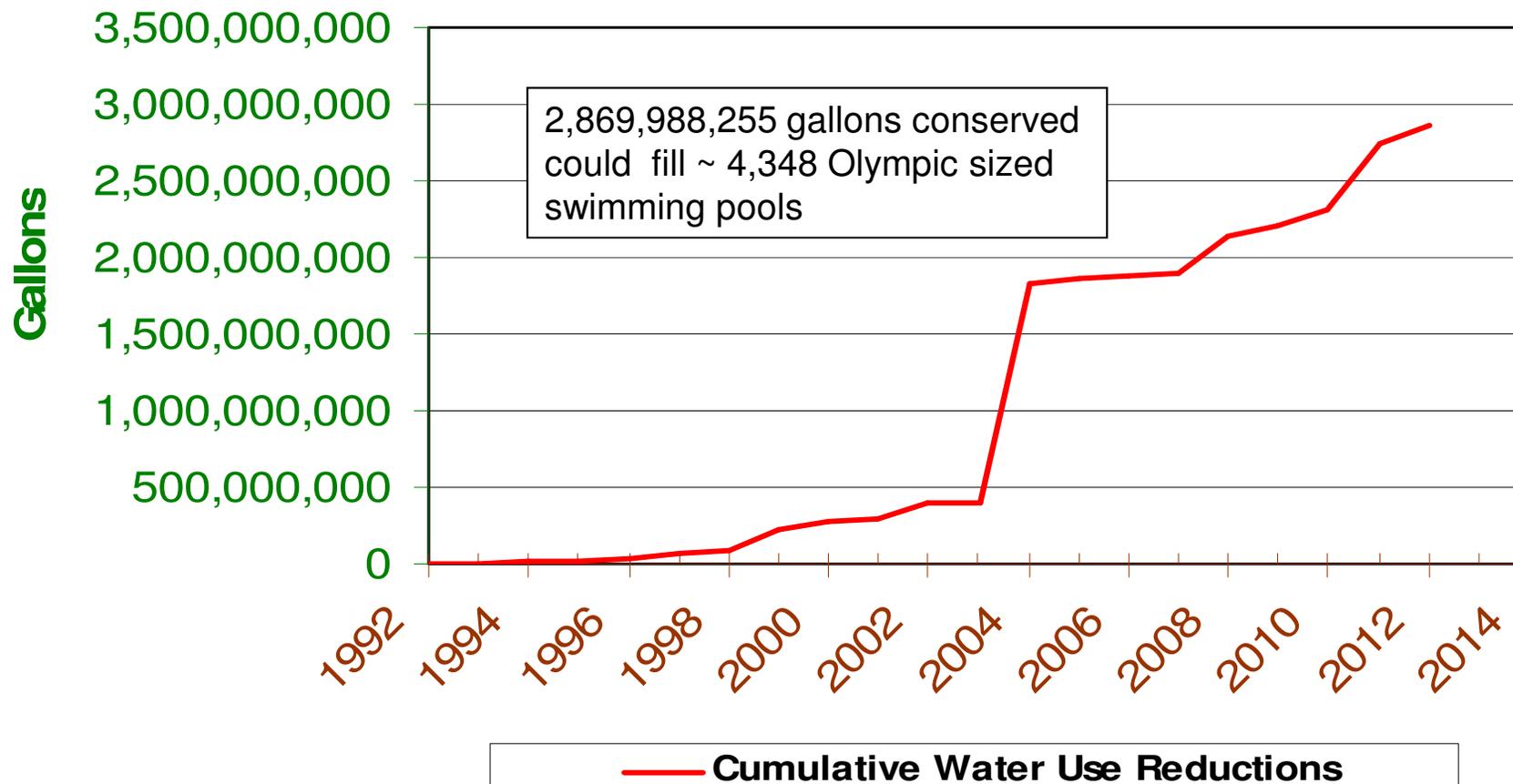
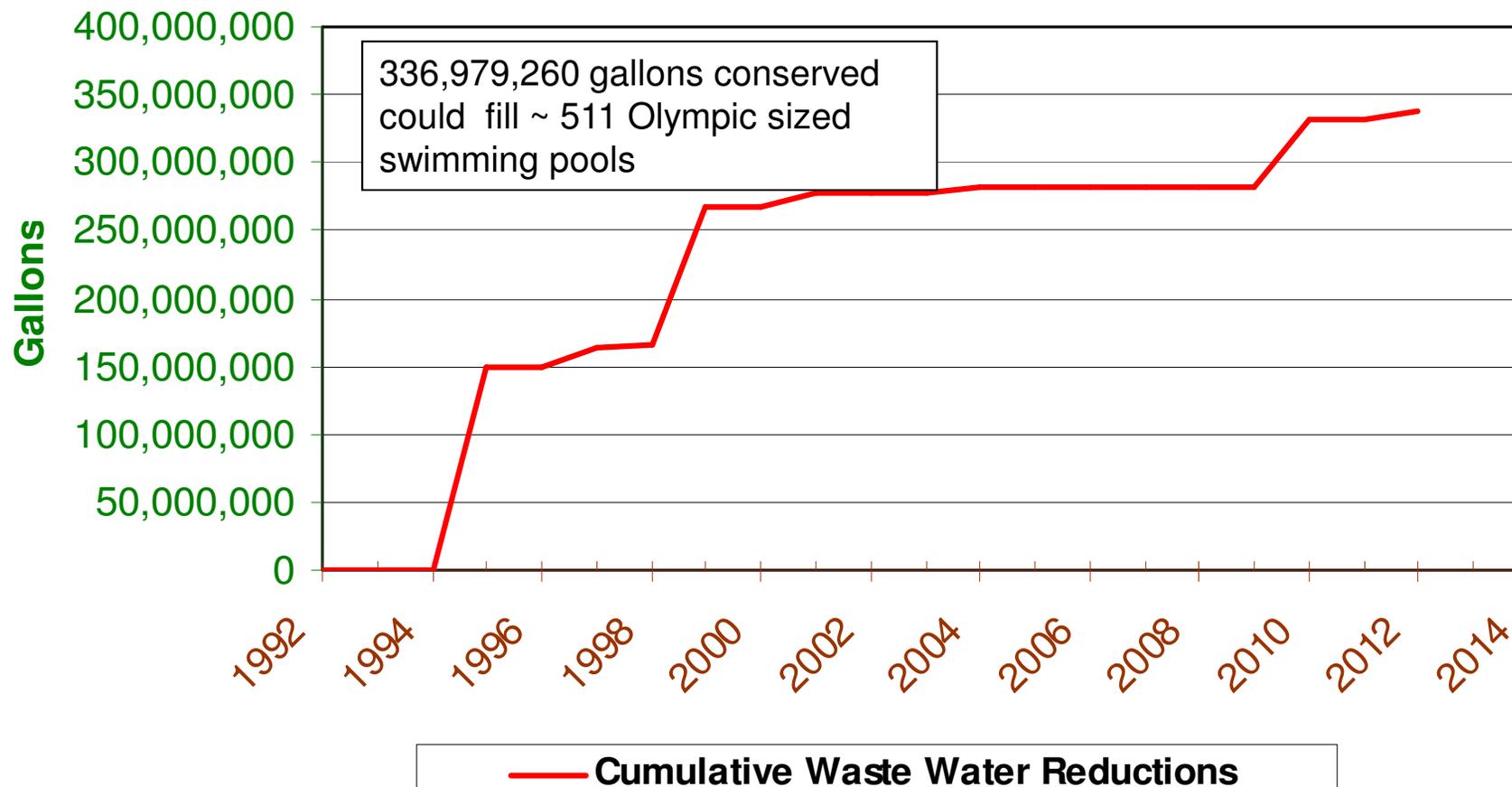


Figure 3: Water Use Prevented by Pollution Prevention



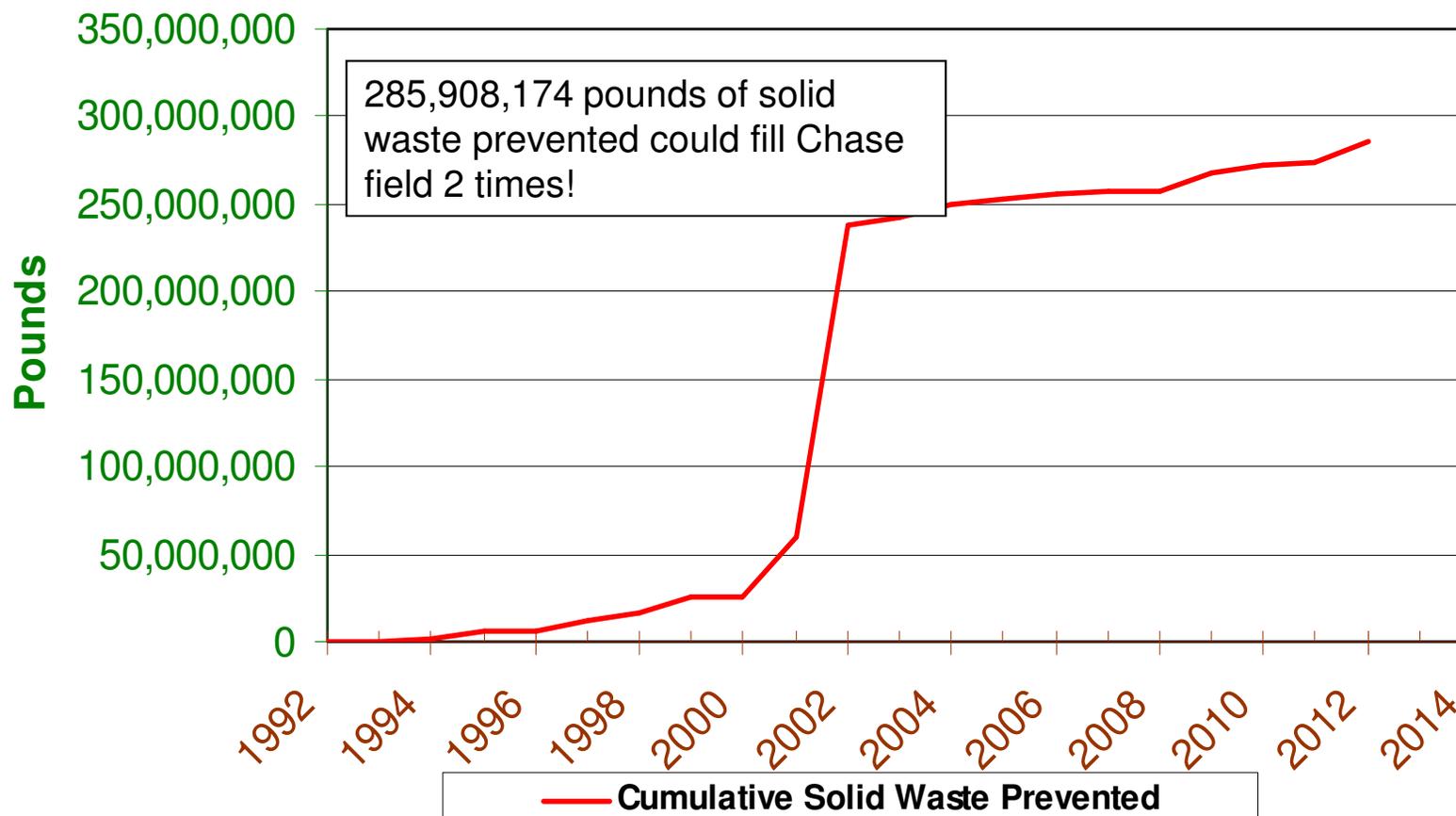
2012 Cumulative Waste Water Prevented

Figure 4: Cumulative Waste Water Prevented by Pollution Prevention



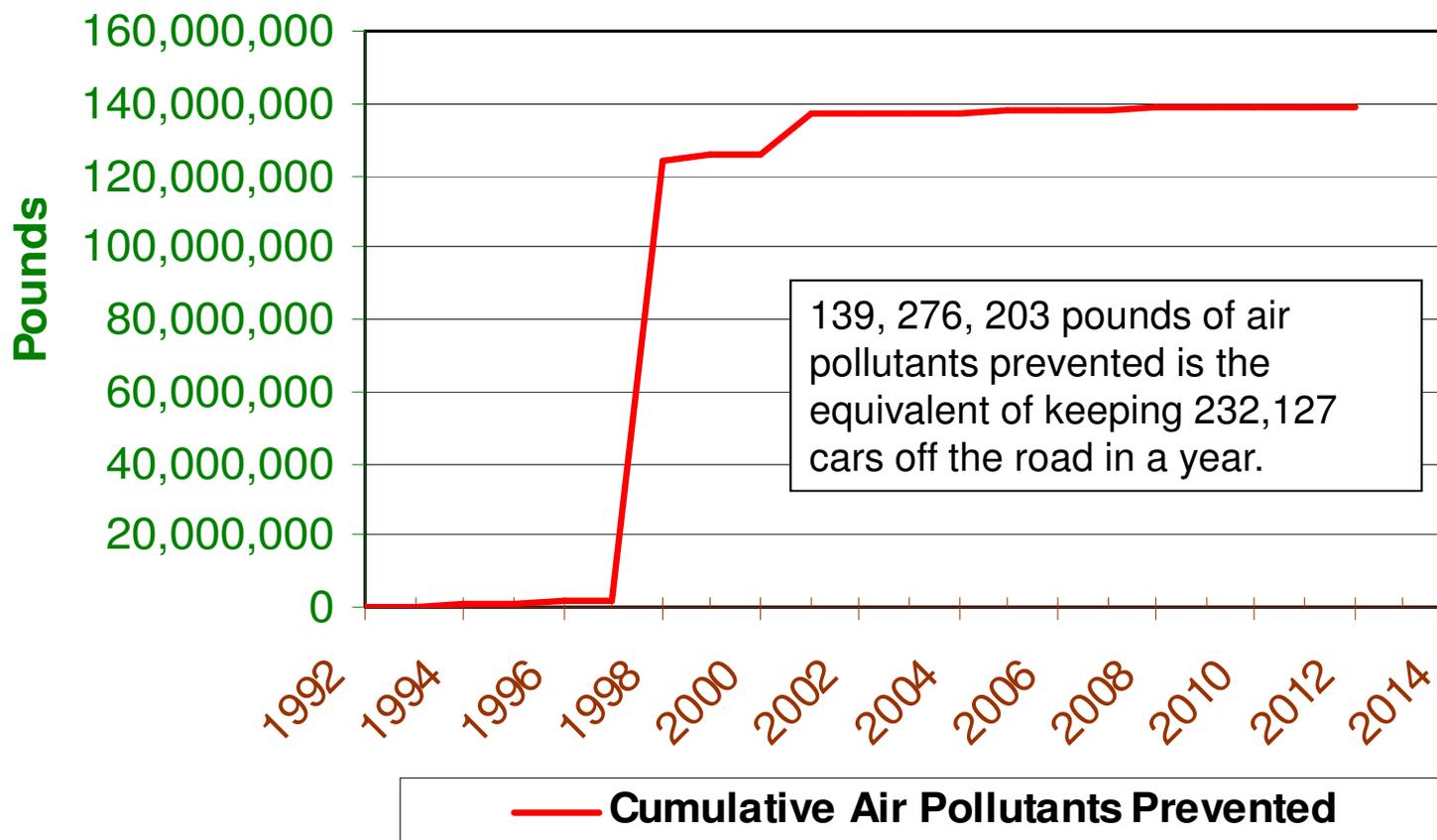
2012 Cumulative Solid Waste Prevented

Figure 5: Cumulative Solid Waste Prevented in Landfills by Pollution Prevention



2012 Cumulative Air Pollutants Prevented

Figure 6: Cumulative Air Pollutants Prevented by Pollution Prevention





P2 Program Information

Our P2 team is here to assist with P2 planning and technical assistance.

For more information:

- Visit our website
- Sign up for Gov Delivery e-mail list
- Contact us with questions.

Please note the P2 Program will offering a workshop in April on how to complete a P2 Plan



Online P2 Resources

<http://www.azdeq.gov/index.html>

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- 02/05/14: ADEQ Officials Announce \$12,500 Grant to White Mountain Wildlife and Nature Center for Environmental Assessment
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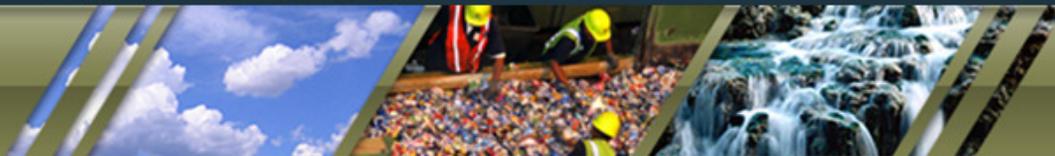
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ADEQ's Pollution Prevention (P2) Unit, implements the state's Pollution Prevention (P2) Program. The Arizona Legislature created the program in 1991 in an effort to minimize the amount of hazardous wastes being generated by businesses.

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- [Completing a P2 Plan](#)
- [Overview](#)
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- [Regulatory Requirements](#)
- [Toxic Release Inventory](#)
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<http://www.azdeq.gov/index.html>

The screenshot shows the ADEQ website homepage. At the top right, there are navigation links: "Calendar", "Subscribe" (circled in red), "Contact Us", and "Help". Below these are tabs for "Air Quality", "Waste Programs", and "Water Quality". The main header features the ADEQ logo, a "Google Custom Search" box, and a banner image of a river in a canyon. A left sidebar contains a menu with items like "Home", "About Us", "ADEQ Job Openings", "Assistance", "Complaint", "Compliance", "Databases", "Education & Outreach", "Laws, Rules & Policies", "Newsroom", "Permits", "Procurement", "Programs", and "Public Notices & Hearings". The main content area has three columns: "Press Releases", "What's New", and "Agency Topics". Under "Press Releases", there are two entries: "02/05/14: ADEQ Officials Announce \$12,500 Grant to White Mountain Wildlife and Nature Center for Environmental Assessment" and "02/04/14: \$9.100 Brownfields Grant Awarded for Asbestos". On the right side, there are several vertical banners for "Emission Inspection", "Subscribe to Topics", "Link", "Children's Environmental Health", "Office of Border Environmental Protection", and "PS".



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Waste Programs Division

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[P2 and Archives](#) - Pollution Prevention (P2) conferences, training webinars, regional events, publications, and news.

[E-Waste](#) - Latest e-waste news and upcoming e-waste events.

[Household Hazardous Waste](#) - Latest HHW news and upcoming HHW events.

[Recycling Grant Program](#) - Upcoming grant opportunities and other grant announcements.

[Recycling News](#) - Arizona successes in recycling.

[Solid Waste Fees and Archives](#) - Solid Waste Fees

[UST/SAF and Archives](#) - Underground Storage Tank/State Assurance Fund Stakeholder meetings regarding funding, tank compatibility, and financial responsibility.



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