

Pollution Prevention

Ashley Waldron

P2 Specialist



Clean Air, Safe Water,
Healthy Land for Everyone



- Define Pollution Prevention (P2)
- Arizona's P2 Program
- Resources





Defining P2



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Pollution Prevention Act of 1990



Pollution Prevention in AZ 1991

Arizona's P2 Program

- Reduce waste at the at the source and prevent the release of pollutants
 - Hazardous waste
 - Toxic substance use
- **Mandatory** for facilities who meet certain thresholds of HW generation and toxic substance use ([slide 11](#))
- Found in Arizona Revised Statutes
 - [\(A.R.S. § 49-961- § 49-969\)](#)
- Voluntary plans welcome!

EPA

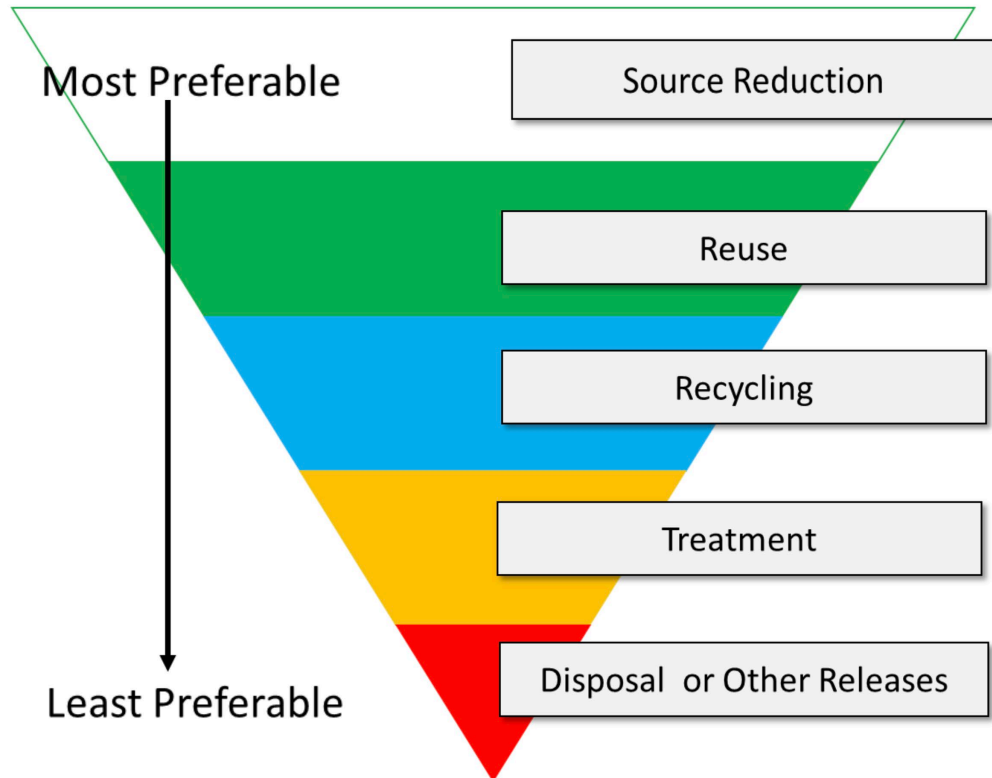
- Focuses on **source reduction** of hazardous substances
- Actions PRIOR to recycling, treatment, or disposal
- Reduce risk to human health and the environment

ADEQ

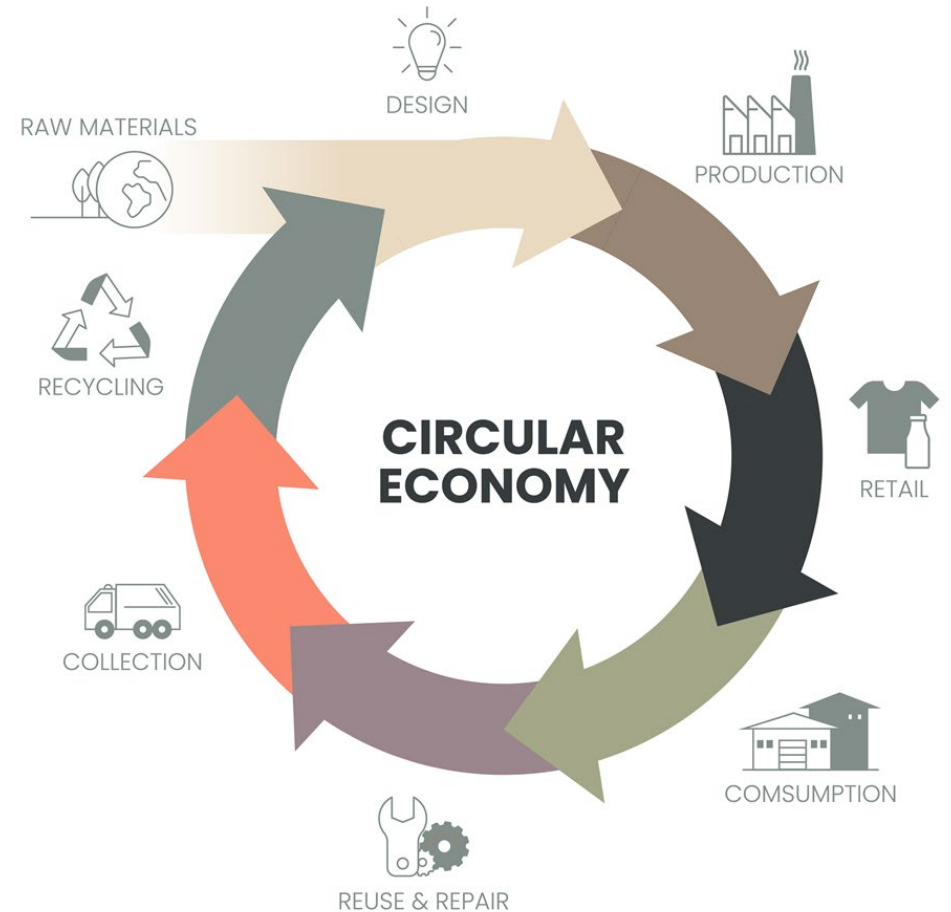
- Focuses on **source reduction** of hazardous waste and toxic substances, but CAN include recycling, conservation, and more
- Reduce potential or actual releases of pollutants
- Includes air, water, and land affected

[Arizona Revised Statutes (A.R.S.) §49-961.7]

Waste Management Hierarchy



Circular Economy



P2 Approaches

P2 Approach	Example
Operational Changes	Implement safety protocols, train staff, standardizing processes
Material Substitutions	Changing to inherently safer alternatives or modifying materials to contain less harmful substances
Product Modification	Changing the end product through design, composition, formulation, or packing changes that reduce waste generation
Process & Equipment Modifications	Investing in efficient equipment; adjustments to timing, temperatures, pressures, concentrations, etc.
Inventory & Material Management	First In, First Out method (FIFO), Just-In-Time Purchasing (JIT), tracking inventory, preventative monitoring



P2 includes any of the following:

Source
Reduction

Spill/Leak
Prevention

Recycling

Business
Changes

Reuse

Reclamation

Conservation

Substitution

[Arizona Revised Statutes A.R.S. §49-961.7]

ADEQ's P2 Program



Key areas of the P2 Plan:

- Detailing toxic substance and hazardous waste processes
- Outlining potential P2 opportunities
- Creating specific performance goals

Purpose of the P2 Plan:

- Reduce the use of toxics and hazardous waste generation
- Emphasize the preference for source reduction
- Protect and enhance public health and the environment
- Promote a circular economic framework



A P2 Plan is required if during the **previous** calendar year a facility:

- ✓ Filed a **Toxic Release Inventory** (TRI) Form (form R or A)
- ✓ Used in excess of **10,000 pounds** of a **TRI listed chemical**
 - See the *Interpretation of “use” of toxic substances in excess of 10,000 pounds for the P2 program*
- ✓ Generated or shipped off-site, for purposes other than recycling a total of
 - **26,400 lbs.** (12,000 kg) per year of **hazardous waste** or
 - **26.4 lbs.** (12 kg) per year of **acute hazardous waste**

Facilities only need to meet any one of the above thresholds to be required to submit a P2 Plan. ([A.R.S. § 49-962](#))

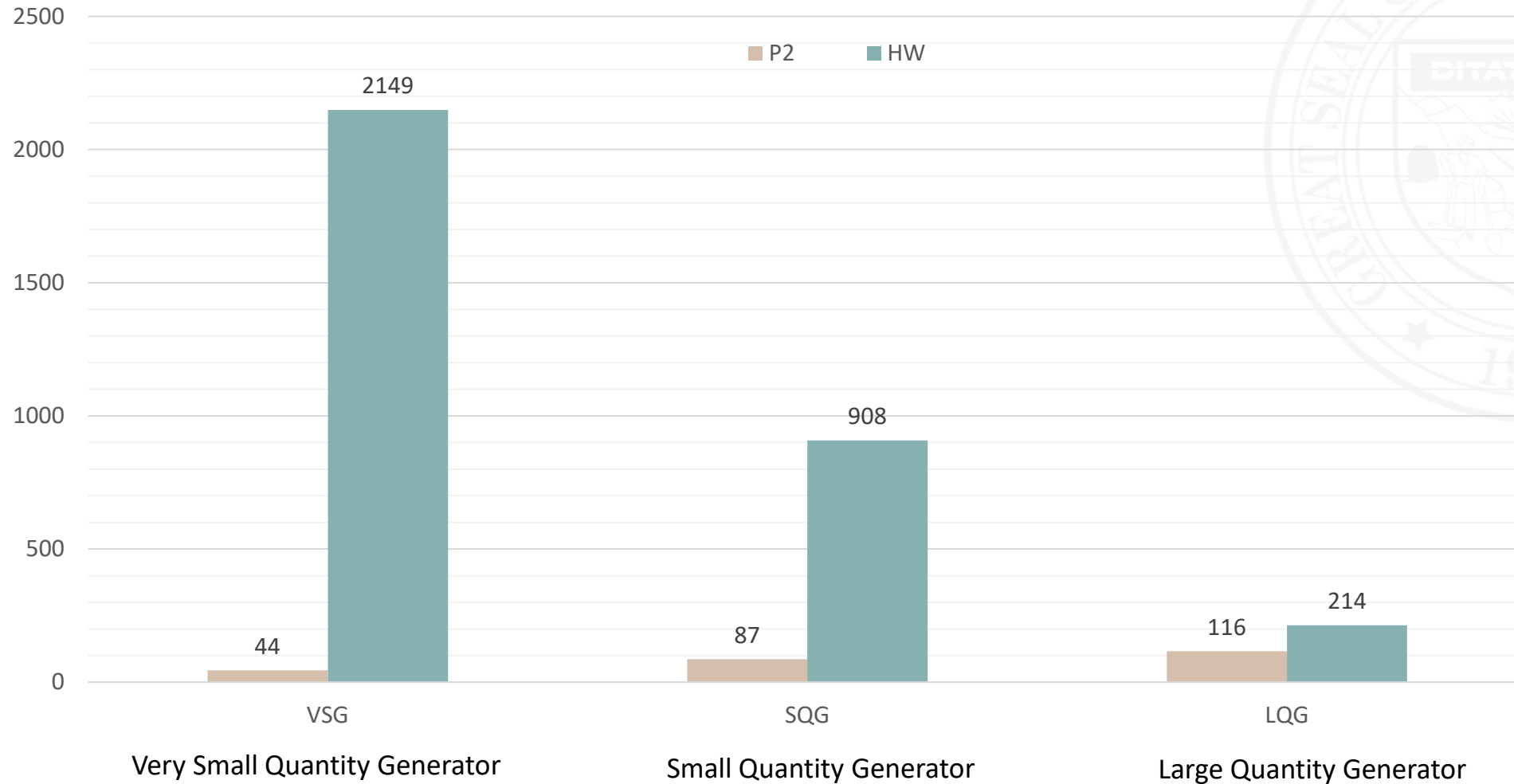
Thresholds- Hazardous Waste



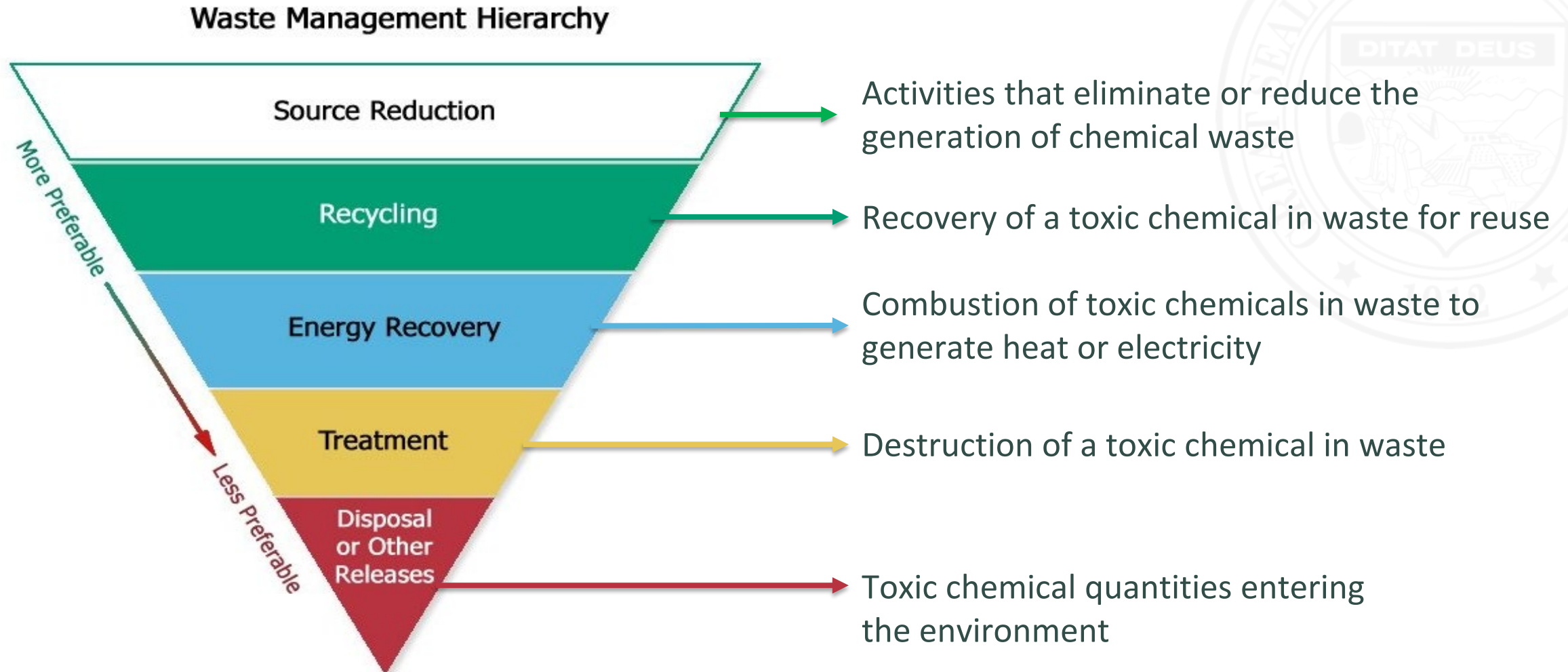
1. Specifically listed as hazardous by EPA or a state (F, K, P, and U)
2. Exhibit certain characteristics. A solid waste that exhibits any of the following characteristics is a hazardous waste:



Thresholds- Generator Universe

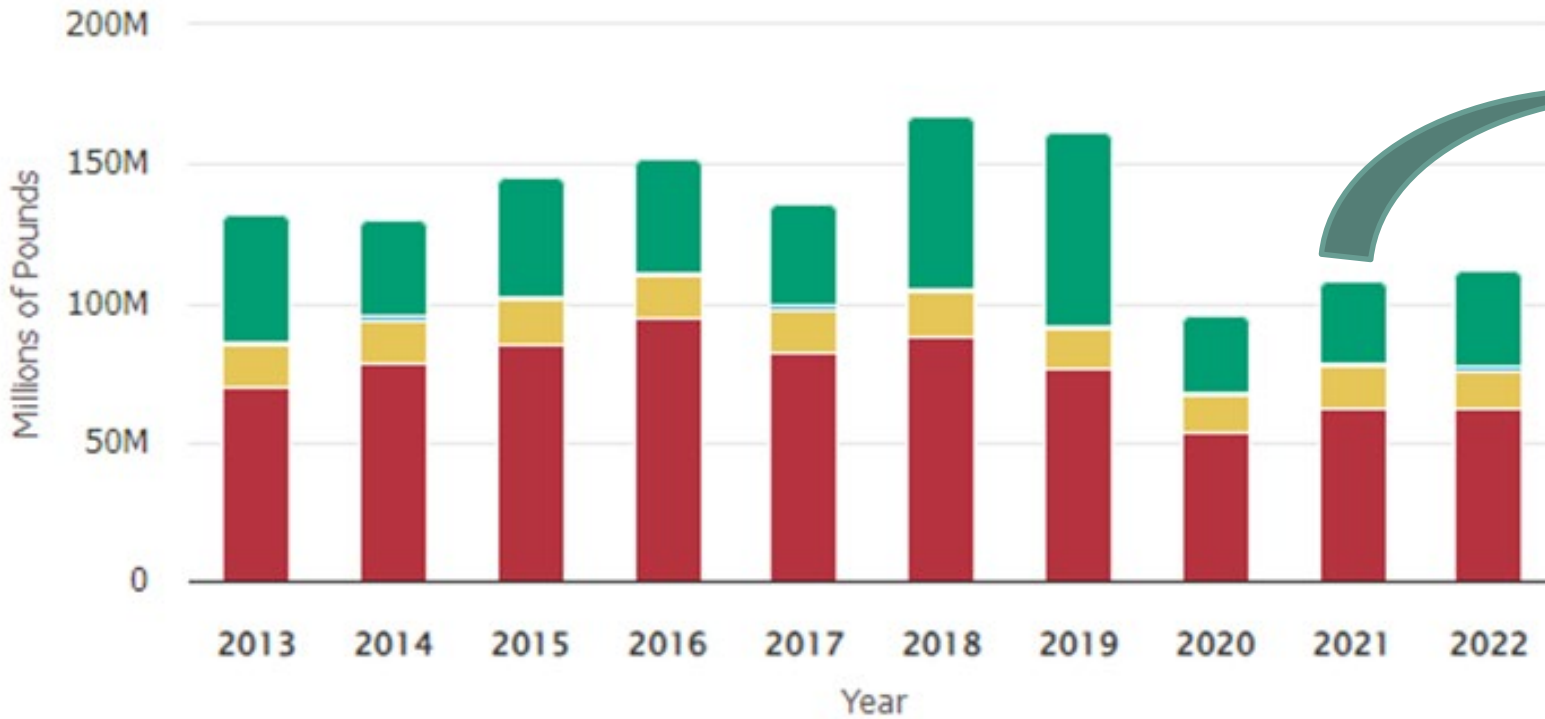


Thresholds- Toxics Release Inventory (TRI)

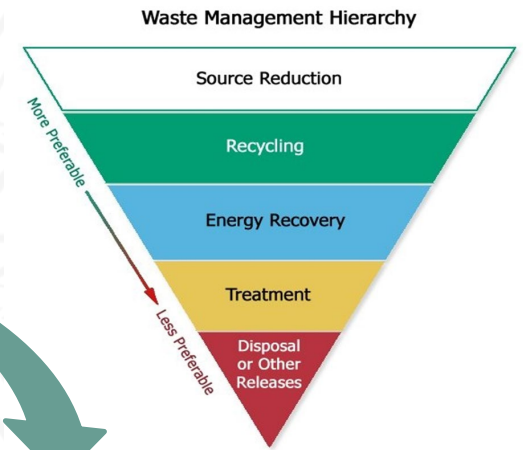


TRI In Arizona

Production-Related Waste Managed AZ, 2013 - 2022



● Recycling
 ● Energy Recovery
 ● Treatment
 ● Disposal or Other Releases



Production-Related Waste Managed AZ, 2021

107.7 million pounds
277 Facilities



- Recycling: 27%
- Energy Recovery: 1%
- Treatment: 14%
- Disposal or Other R...: 58%

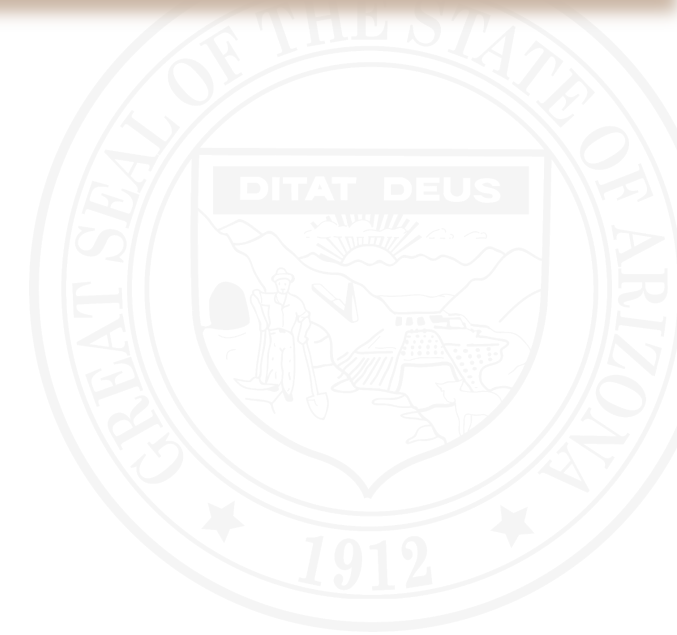
Disposal or other releases:
62,559,725 pounds



Program Successes



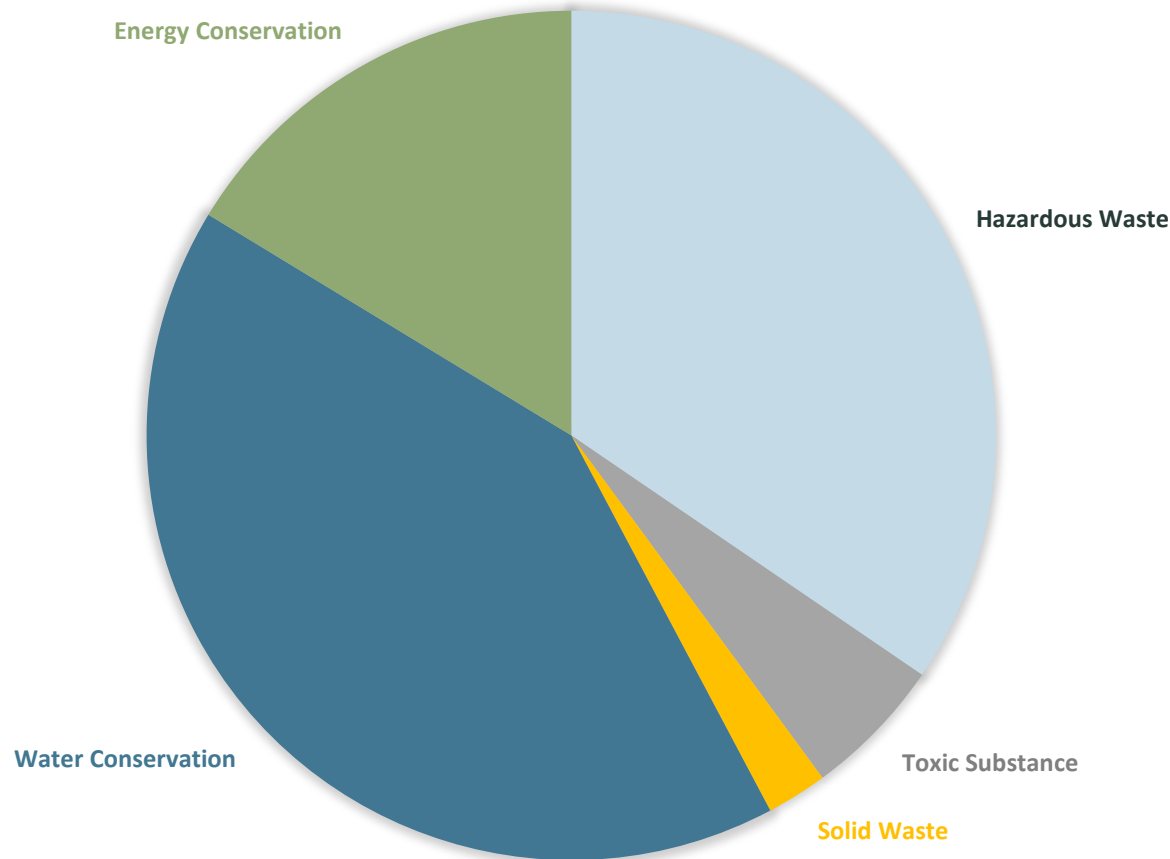
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Tips to Create a Successful P2 Program for your Business

P2 Program Data in 2022

**2022 COST SAVINGS:
\$5,006,395**



283 Facilities

2022 Reduction Totals

Hazardous Waste	1,867,999	Pounds
Toxic Substances	194,059	Pounds
Solid Waste	63,965,231	Pounds
Water Conservation	401,175,644	Gallons
Electrical Conservation	432,071	kWh

Industry	Computer and Electronic Product Manufacturing
LQG	Hazardous Waste Reduction
Actions	Tested existing hazardous waste and determined the waste stream to be non-hazardous
Reductions	49,550 LBS
Cost Savings	\$40,000

Industry	Computer and Electronic Product Manufacturing
TRI	Toxic Substance Reduction
Actions	Reduce toxic substance use by adjusting furnace schedule based on loads greater than 85%
Reductions	5,314 LBS
Cost Savings	\$4,664



Industry	Plastic and Rubber Products Manufacturing
LQG	Water Reduction
Actions	Installation of flow meters with greater focus on leak detection and repair in their preventative maintenance schedule
Reductions	3,740,000 GAL
Cost Savings	\$21,836

Industry	Chemical Manufacturing
LQG	Energy Reduction
Actions	Replace all facility lights with LED lights
Reductions	2,572,222 kWh
Cost Savings	\$231,500



Industry	Transportation Equipment Manufacturing
SQG - TRI	Solid Waste Reduction
Actions	Printers programmed to default to two sided greyscale printing
Reductions	1,050 LBS
Cost Savings	\$630

Industry	Foundries
VSQG – TRI	Hazardous Waste Reduction
Actions	Improved chemical management system to track products susceptible to expiration and purchasing on a need basis
Reductions	5,574 LBS
Cost Savings	\$14,129



Resources



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User Guides & Help Center

- Technical Support
- Adding New Users
- Roles and Responsibilities
- Pollution Prevention Resources
- Other Permitting and Compliance Resources

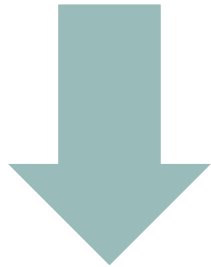


- Green Chemistry
- Safer Choice
- Sustainable Materials Management
- ENERGY STAR
- WaterSense



Resource Summaries help identify P2 opportunities on certain industries and topics

Resource Summaries Found [HERE](#)

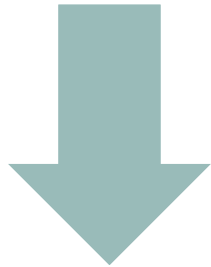


Send your suggestions and successes to the P2 Team:
P2@AZDEQ.GOV



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azdeq.gov/p2-resource-summaries

Flow Diagram Key



1 Start Here

A P2 Plan is a management document that provides information on facility operations that directly or indirectly produce waste or use toxic substances. The plan involves:

- Recording the facility's toxic substance use, emissions, and waste from current work practices
- Outlining potential P2 opportunities and providing specific performance goals, including a schedule for implementing pollution prevention activities
- Documenting that the facility has performed a rigorous P2 assessment
- Recognizing past P2 activities that have already been completed at the facility, when available.

To guide you through P2 plan reporting, refer to these process flow diagrams. Step 2 will guide you through a New Plan or an Amendment. Step 3 outlines the annual progress report (APR). As you follow the flow diagram, don't forget to explore the linked guidance for additional support. Please get in touch with the P2 team if you have any questions.

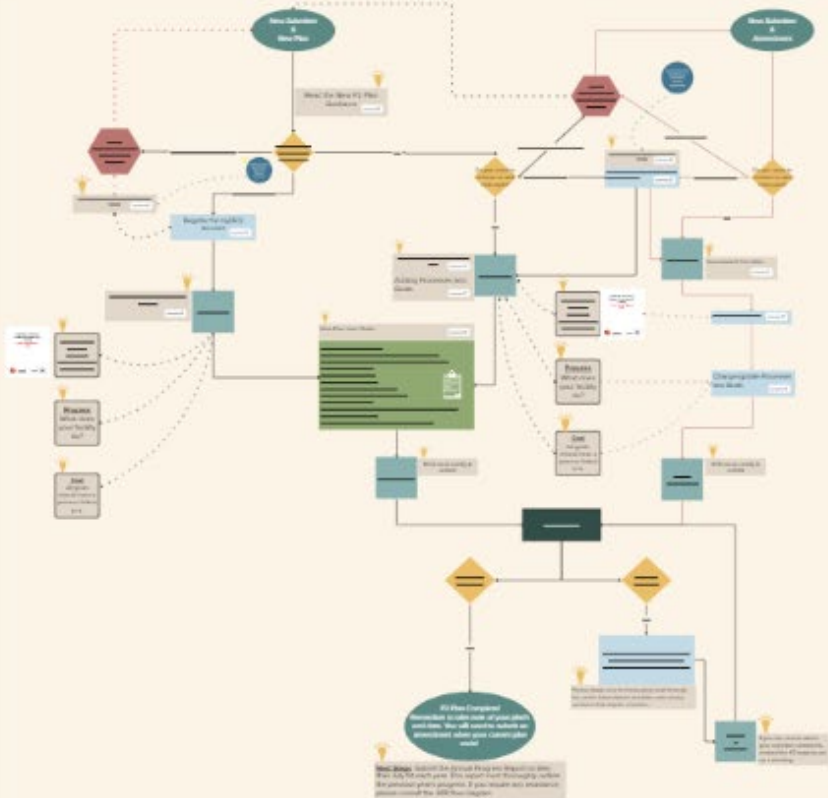
If you, at any point, need assistance, please contact the P2 team: P2@azdeq.gov 602-771-6053

If you need technical assistance contact myADEQ's Help Desk: myADEQ.support@azdeq.gov 644-527-4750

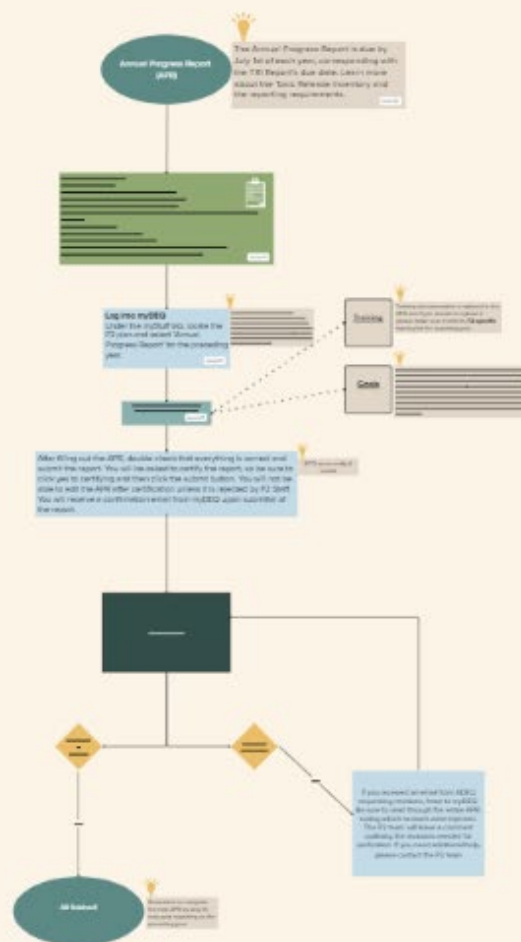
The annual progress report (APR) is due July 1st of each year, reporting on the preceding year.

The amendment is due on your existing plan's end date.

2 New Plans & Amendments



3 Annual Progress Report



- Process Flow Diagrams
- User Guides
- Checklists
- Resource Summaries by Industry
- Templates
- P2 Planning Toolkit
- And more!

Pollution Prevention Reporting Guide



bit.ly/P2ReportingGuide

- **Process Flow Diagrams**
- **User Guides**
- **Checklists**
- **Resource Summaries by Industry**
- **Templates**
- **P2 Planning Toolkit**
- **And more!**

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