

Goals of P2 & ZW Training

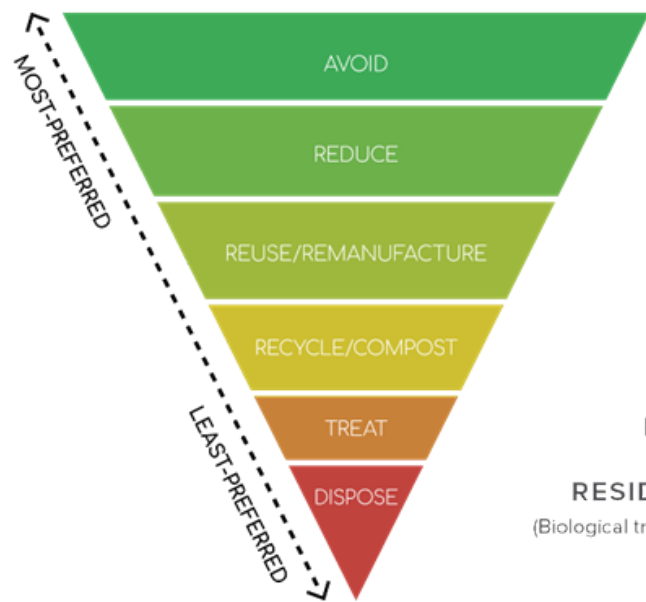
- Use Pollution Prevention (P2) and Zero Waste strategies to make improvements in purchasing and operations
- Identify various harmful chemicals in products and wastes
- Implement practical ways to reduce impacts on the environment and risks to health



P2ZW Training 1

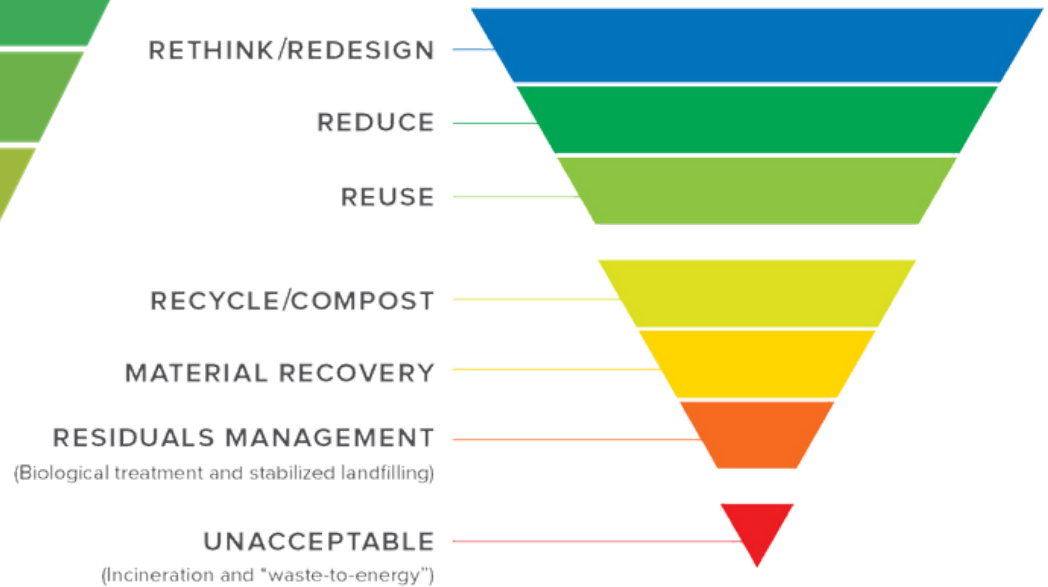
These are the goals of the training. (read goals) We have a lot of material to present today to communicate the effective methodologies of Pollution Prevention, Zero Waste, and Green Purchasing). This is the start of what we hope will be an ongoing relationship that will result in improved operations and reduced health and environmental impacts for all of you.

Pollution Prevention Hierarchy



THE ZERO WASTE HIERARCHY 8.0

For detailed version visit www.zwia.org/zwh

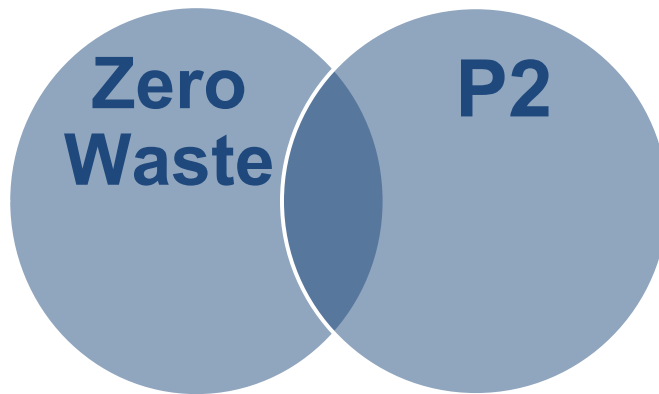


The top of the P2 and Zero Waste hierarchies focus on the same things. It's all about Avoiding, Rethinking, Redesigning Reducing and Refusing wasteful products, packages and services first, then setting up and using reuse systems, then recycling and composting, then treating or recovering materials to reduce their volume and toxicity and then managing residuals/disposing of materials and products that were not able to be reduced, reused, recycled or composted. Zero Waste has a clear message that burning materials (all processing systems that operate over 212 degrees Fahrenheit) is not acceptable.

Overview of

Zero Waste Connection with P2

- Focus on Non-Hazardous Solid Waste



- Focus on Toxics and Hazardous Solid Waste

- Sort, Crush and grind materials

- Apply Engineering, Biology, Chemistry, Physics, and Natural Principles

Zero Waste and Pollution Prevention (P2) methodologies are very similar, but have historically focused on different things.

Zero Waste has focused on non-hazardous solid waste, often “municipal solid waste” from residents and businesses. P2 has focused on reducing and preventing toxics and hazardous solid waste, often from businesses.

Zero Waste practices have relied on sorting materials (preferably at the source), then crushing and grinding them. P2 has applied engineering, biology, chemistry, physics and natural principles to reduce and prevent the use of toxics and hazardous waste.

How P2 can Help with Zero Waste

- Redesigning Products
- Uses for Hard to Recycle
- Research & Development
- Technical Assistance to Biz
- Alternatives to Toxics

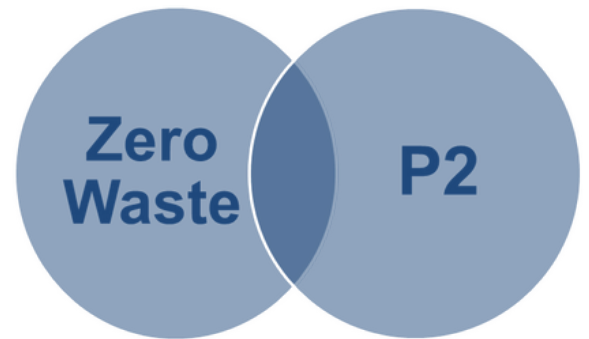


P2 could help Zero Waste programs to figure out how to redesign products, reuse hard-to-recycle materials, products, and packaging, provide technical assistance to businesses and institutions, and identify alternatives to toxics or products with less toxicity.

P2 scientists could also help immeasurably in conducting research & development for hard-to-recycle materials, products, and packaging.

How ZW can Help with P2

- Identifying Products Needing Redesign
- Identifying Hard to Recycle & Toxic Materials
- Set up Research & Development Programs
- Identify Biz Needing Technical Assistance
- Recognition & Certification
- Training



Zero Waste programs could help P2 with these activities and tasks.

Components of a ZW & P2 Plan

ZW Components

- Executive Summary
 - Existing System
 - System Overview
 - Commodities Analysis
 - Service Opportunities
- Policies, Programs, & Facilities
- Economics / Budget
- Impacts (Environmental & Jobs)
- Phased Implementation Timeline
- Appendix: List of Stakeholders and Meetings Held

P2 Components

- Cleaning Chemicals and Parts Cleaning Equipment
- Wastewater/Stormwater
- Secondary Containment Spent and Re-Refined Fluids
- Spill Preparedness
- Energy Efficiency
- Paint Operations & Optimization
- Appendix: Site Map

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This slide highlights key components of a Zero Waste Plan and key components of a P2 Plan. Although the Zero Waste Plan components include tasks that are unique to Zero Waste Plans (e.g., Service Opportunities Analysis, and review of Policies, Programs & Facilities), most of the Zero Waste Plan components are often part of P2 Plans as well. P2 Plan components include reviews of solid and hazardous waste issues, as well as wastewater, emergency preparedness, and energy efficiency.

P2 & ZW Plan Components

- Executive Summary
- Goals
- Team Members
- Baseline (Compile /Analyze Cost and Data on Energy, Water, Hazardous/Toxic Materials/Waste, Wastewater, Stormwater Discharges, Air Emissions, and Solid Waste)
- Existing System (Overview, Commodities Analysis, Service Opportunities Analysis)



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This slide highlights components of a combined Zero Waste and P2 Plan that incorporates many of the components of each methodology.

P2 & ZW Plan Components

- Policies, Programs, & Facilities (P2 & ZW opportunities prioritized for implementation)
- Economics (Costs/Benefits) / Budget
- Impacts (Environmental & Jobs)
- Plan and Timeline for Implementation of Selected Opportunities
- Appendix: List of Stakeholders and Meetings Held

This slide continues to show components that could be included in a combined Zero Waste and P2 Plan

How to Develop a ZW & P2 Plan

- Review Data, Policies, and Programs
- Participation Strategy
- Commodities Analysis
- Service Opportunities Analysis
- Policies, Programs, and Facilities
- Economics & Impacts (jobs, GHG)
- Implementation Plan (including timeline)

This slide highlights how to develop a combined Zero Waste and P2 Plan

Results of P2 & ZW Planning

- Adopt P2 and Zero Waste Goals
- Develop Plans for Tribe, Facility, or Event(s)
 - P2 & Zero Waste Plan
 - Toxics Use Reduction Plan
 - Green Purchasing Action Plan
 - Green Cleaning Plan

This slide highlights what could be the results of a combined Zero Waste and P2 planning process, including the adoption of both Zero Waste and P2 goals, and the development of plans for a tribe, a facility or one or more events. The Plans could be a comprehensive Plan that addresses all aspects of Zero Waste and P2, or could be focused solely on the reduction of toxics, green purchasing or green cleaning.

Results of P2 & ZW Planning

- P2 & ZW system improvements made
- P2 and ZW educational forums for tribe conducted
- Green Team(s) established
- Pilot tests of safer products underway
- Tribe set up contracts for green products on its own and/or is using WA state contracts to do green purchasing



Some tangible results of Zero Waste and P2 planning could be improvements to the design of products, processes or waste handling systems, educational forums for the tribe to share information obtained through this training with others, establishing a Green Team, doing pilot tests of safer products, and/or setting up contracts for green products itself, or using state contracts to do green purchasing.

Curriculum Revisions

- Shifted away from planning to focus on concepts, tribal case studies, and application
- ID'd problematic materials/products/practices
- Fewer slides, longer activities
- Flexibility of content
- Peer-to-peer learning

1. The participants at the March TSWAN meeting were less interested in planning and more interested in actionable items that could help solve problems they faced on a day-to-day basis. We researched and shared case studies from other tribes to demonstrate what other tribes have accomplished.

2. Starting all three of the trainings by asking participants to share problematic materials, products, and practices helped us understand what was top of mind for them. At the June 2023 training, the ZW hierarchy activity provided an opportunity for participants to workshop those materials, products, and practices to find Zero Waste solutions, that focused first on current practices, then how to institute recycling systems, reuse systems, less toxic systems or eliminate the products to start with. We learned that illegal dumping, tires, and white goods are commonly shared issues on tribal lands. We think publishing FAQs around these common issues via the website could be a useful resource.

3. We refined the training to find the right amount of content to balance with engaging activities while maintaining a relaxed pace and structuring plenty of time for conversation. The training evolved to be less about talking at participants and more about talking amongst participants. We achieved that by presenting fewer slides and planning longer activities.

4. We learned we needed to be flexible in terms of content. The ZW content was a good fit for the TSWAN audience. We sensed that the P2/GP content was less of a fit because of the roles of the staff in attendance (one exception was Coeur d'Alene tribe sent EHS staff person in March). While we had not planned to do so, we spent more time on ZW than P2/GP at the June training than we did at the March training. The participants were very engaged in the ZW module and we allowed extra time for free discussion about the topics and sharing amongst participants.

5. Peer-to-peer learning became an important aspect of the training. We made space for that by focusing more on activities, being flexible with content and leaning into what participants were excited to talk about, and being flexible with time to make space for open discussion.

Next Steps for P2 & ZW

- Develop Zero Waste Guidelines for Hazardous Waste
- Develop P2 and Green Purchasing educational forums and training for Zero Waste professionals
- Develop Zero Waste educational forums and training for Pollution Prevention and Green Purchasing professionals
- Go to them to get broader range of stakeholders
- Collaborate on Research & Development
- Develop FAQ applying Hierarchies for common materials at tribes



As the Zero Waste International Alliance (zwia.org), its National Affiliates and the US Green Building Council (USGBC) TRUE Zero Waste (True.gbci.org) rating system have all focused on non-hazardous waste management, it's time for Zero Waste concepts to be broadened to address Hazardous Waste. ZWIA feels that most Zero Waste policies and principles apply equally well to hazardous wastes. ZWIA would like to set up a Subcommittee to help draft guidelines for Zero Waste policies and principles for hazardous wastes. ZWIA is particularly interested in getting those involved with P2 and hazardous waste involved to provide more expertise for these topics. Let us know if you're interested in participating.

Providing comprehensive training on all 3 topics (P2, ZW and Green Purchasing) was too much information for most people who attended our tribal training. For tribes, it would be best to focus future training on one of the 3 topics at a time. For professionals in these fields, it would be good to develop reciprocal training for each other in P2, ZW, and Green Purchasing.

Going to them to get a broader range of stakeholders is the best way to integrate all three approaches into a single training. The PPRC training provided to the Snoqualmie tribe provides a model of meeting them where they're at (literally, at their facility) creates an opportunity to engage multiple people across the organization where the intersection of P2/ZW/green purchasing can make sense and be meaningful on an organizational level; this could be an effective, intentional approach to use in the future.

Developing Frequently Asked Questions for common materials found at tribes applying the P2 and ZW hierarchies would be a useful resource.

Collaborating on Research and Development is another opportunity for the future. That approach was included as a recommendation for both the Boston and updated Palo Alto Zero Waste Plans. UC Berkeley has developed a Zero Waste Institute to focus on researching better uses for hard-to-recycle materials, products and packaging found on its campus.