

# PRINCIPLES OF ZERO WASTE

## ZERO WASTE: A NEW WAY TO LOOK AT OUR NATURAL RESOURCES

	Principles Guiding Current Practices	Guiding Principles for Pursuing Zero Waste
<b>Systemwide Principles</b>	<ul style="list-style-type: none"> <li>• Limitless flow of resources from nature to dumps.</li> <li>• Lack of producer responsibility for environmental and social impacts of products and packaging.</li> <li>• Focus on increasing production and productivity of labor.</li> <li>• Focus on large-scale, centralized, capital-intensive industries (resource extraction and waste management).</li> <li>• Many environmental costs and benefits not accounted for.</li> </ul>	<ul style="list-style-type: none"> <li>• Flow of resources viewed as a cycle with minimized input and output.</li> <li>• Responsibility by producers for the life-cycle impacts of products and packaging, creating incentive to design more benign products.</li> <li>• Focus on increasing benefits to communities and optimizing productive use of resources.</li> <li>• Focus on locally owned, independent industries.</li> <li>• Accounting for environmental costs and benefits.</li> </ul>
<b>Government Policies</b>	<ul style="list-style-type: none"> <li>• Manage waste at taxpayer expense.</li> <li>• Regulate specific environmental emissions at facilities.</li> <li>• Subsidize virgin extraction firms and waste management firms.</li> </ul>	<ul style="list-style-type: none"> <li>• Eliminate waste by holding producers responsible for impact.</li> <li>• Systematically optimize environmental, economic and social impacts of the production and consumption cycle.</li> <li>• Create level playing field or outright subsidies to promote resource conservation industries.</li> </ul>
<b>Raw Material Supply</b>	<ul style="list-style-type: none"> <li>• Emphasis on virgin resources with harvests determined by commodity cycles.</li> <li>• Toxic materials managed.</li> </ul>	<ul style="list-style-type: none"> <li>• Emphasis on recycled material use and sustainable harvesting of natural resources.</li> <li>• Emphasis on use of non-toxic materials.</li> </ul>

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**“Wasting resources wastes jobs because it removes resources from commerce.”**

— Dan Knapp, Urban Ore, Inc.

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<b>Product and Packaging Design</b>	<ul style="list-style-type: none"> <li>• Guided by competitive innovation, with emphasis on marketing and sales.</li> <li>• Some attention to design-for-recycling, clean production, or design-for-environment where public attention is focused.</li> <li>• Focus on short product lifespans to maximize sales.</li> </ul>	<ul style="list-style-type: none"> <li>• Guided by design-for-environment principles to reduce resource use and environmental emissions, and to minimize recycling or reuse costs.</li> <li>• Focus on waste minimization, durability, repairability, and recyclability.</li> <li>• Maximized lifespans of products.</li> </ul>
<b>Manufacturing Practices</b>	<ul style="list-style-type: none"> <li>• Companies strive to minimize compliance costs with end-of-pipe emission regulations.</li> </ul>	<ul style="list-style-type: none"> <li>• Companies redesign entire operations to minimize resource use and environmental emissions and maximize product reuse and recycling.</li> <li>• Producing companies are responsible for end-of-life management of their products and packaging.</li> <li>• Producers influence Zero Waste throughout the system by adjusting specifications for suppliers and by taking responsibility for end-of-life management.</li> </ul>
<b>Sales and Distribution</b>	<ul style="list-style-type: none"> <li>• Wholesalers and retailers assume no responsibility for environmental management.</li> <li>• Emphasis on large-scale distribution and international trade.</li> </ul>	<ul style="list-style-type: none"> <li>• Where feasible, products are leased, with ownership retained by the producer.</li> <li>• Wholesalers and retailers are active partners in product take-back and marketing environmentally sound products.</li> <li>• Emphasis on regional distribution and sales.</li> </ul>
<b>Consumption</b>	<ul style="list-style-type: none"> <li>• Consumers select products based on price and quality.</li> </ul>	<ul style="list-style-type: none"> <li>• Consumers select products based on environmental performance, price, and quality.</li> <li>• Consumers participate in recycling and reuse programs.</li> </ul>
<b>End-of-Life Management</b>	<ul style="list-style-type: none"> <li>• Many environmental costs and benefits hidden.</li> <li>• Secretive and complicated accounting processes.</li> <li>• Taxpayers bear most costs of disposal, including landfilling and recycling.</li> </ul>	<ul style="list-style-type: none"> <li>• Programs create strong incentive to maximize diversion.</li> <li>• Programs incorporate full cost accounting principles.</li> <li>• Producers bear most costs of disposal.</li> </ul>