

Design Principles for Waste Prevention and Systems-Thinking: Checklist

WASTE PREVENTION STARTS WHERE DESIGN BEGINS

The National Zero Waste Council promotes waste prevention through design innovation – by taking a systems perspective, designers become an important lever in wiping out waste at every stage of the supply chain, from pre-use, during use, through to post-use stages of the product or package life cycle.

Use this checklist to help design waste out, then submit your products or packaging into the NZWC's Design Portfolio for the opportunity to showcase your success.

PRE-USE DESIGN PRINCIPLES

- Prioritize re-used, reclaimed, recycled, or rapidly renewable source materials.
- Minimize energy used during manufacturing, and prioritize renewable sources of energy.
- Prioritize low waste manufacturing techniques and add value to byproducts.
- Dematerialize to reduce the total amount of material used during manufacture, and also reduce the amount discarded.
- Maximize product density and minimize packaging required. This means providing enough packaging to protect the product, inform and appeal to the consumer, without excess.
- Plan for efficient transportation.

DURING USE DESIGN PRINCIPLES

- Design to meet a need, and explain clearly how to use and dispose. Why? A product which clearly meets a need is less likely to be disposed of prematurely. Additionally, clear instructions for use and disposal reduce the chance of breakage, under-use, early disposal, or deposit in the wrong waste stream.
- Extend the products useful life through repair and return programs; and, eliminate the need for other products in the consumer's life through repurposing or integrating multiple functions.

POST-USE DESIGN PRINCIPLES

- Divert materials from landfill and promote a circular economy using methods such as repair, easy disassembly and design for re-use, use by another industry, composting and recycling.
- Accurate environmental claims support and promote sustainable design methods

For more detail on these Design Principles, visit nzwc.ca/focus/design/principles-and-reviewers

Design Principles for Waste Prevention and Systems-Thinking: **Key Questions**

DESIGN WASTE OUT OF THE SYSTEM

Asking the right questions at each stage of a product or package life cycle is key to preventing waste.

PRE-USE

- Can we redesign manufacturing to reduce wasted by-products?
- Can we replace non-renewable virgin materials with reused, recycled or reclaimed materials?
- Can the packaging be minimized?

DURING USE

- How will this be used? How can we prolong its use?
- What support do customers need to use and dispose of it properly?

POST-USE

- Who will take it apart? How can we make disassembly easier?
- How can we ensure all parts are diverted from landfill?

Have these questions down pat? Submit to the Design Portfolio at www.nzwc.ca/focus/design/portfolio-submissions