

9.9: Environmental Concerns Regarding Packaging

Learning Objectives

By the end of this section, you will be able to

- Describe environmental concerns with respect to product packaging.
- Discuss strategies that are being used to address environmental concerns.

Environmental Concerns in Product Packaging

Consumers are increasingly concerned about the environmental impact of packaging and its contribution to waste. A study by McKinsey indicates that more than half of US consumers are highly concerned about the impact of product packaging. While it is not a top criterion for purchase, product packaging is a consideration among consumers. Furthermore, consumers are willing to purchase products that have green packaging, such as recycled plastics and fiber-based substitutes (Feber et al., 2020).

Groceries are typically packaged in glass, cardboard, plastic, and metal cans. Single-serve plastics are a concern when used for groceries, as they cannot be recycled. Electronics and other fragile products may be packaged with cardboard and foam, which can find their way into landfills. In addition to the energy used to manufacture the product, packaging adds to the environmental burden. Discarded product packaging can be found in landfills, as street litter, and in water sources, harming the environment. Creation of product packaging depletes critical resources, such as trees, and adds to air pollution.

Link to Learning: How Much Plastic Floats in the Great Pacific Garbage Patch?

Check out [this website](#) that describes the impact of the Great Pacific Garbage Patch. Think about the impact that packaging has on the environment and what you can do to reduce your personal plastic waste.

Companies are innovating on packaging to make it sustainable. As you may see at a restaurant like Chipotle, brands are adopting more fiber-based packaging and compostable, recyclable options (see Figure 9.13).



Figure 9.13 Chipotle's commitment to the environment through sustainable packaging and reuse is a strong part of its brand. (credit: "Quesadilla Steak Burrito + Carnitas Bowl" by punctuated/flickr, CC BY 2.0)

Companies are also looking at ways to reduce packaging to just its necessary components. Boxed Water Is Better has adopted a cardboard box for its water that is 75% paper and 100% recyclable (see Figure 9.14). The packaging is free of BPA and other

chemicals. The paper is ethically sourced and shipped flat to reduce the amount of space in a truck, further reducing the company's carbon footprint (Boxed Water is Better, 2021).



Figure 9.14 Boxed Water Is Better makes sustainable packaging decisions in order to be environmentally responsible. (credit: "Boxed Water, Complete with an Expiry Date. Meanwhile, There's a Drought in California" by Schill/flickr, CC BY 2.0)

Cradle-to-cradle packaging design takes the waste out of the life cycle of a package. The package is designed to be something that can be reused or 100 percent recycled. It is meant to imitate nature's processes by being regenerative. A cradle-to-cradle approach uses renewable energy and keeps parts of the biological world within the biological world. Similarly, some consumer goods flow in a technical cycle so the material resources can be generated into new products (see Figure 9.15).

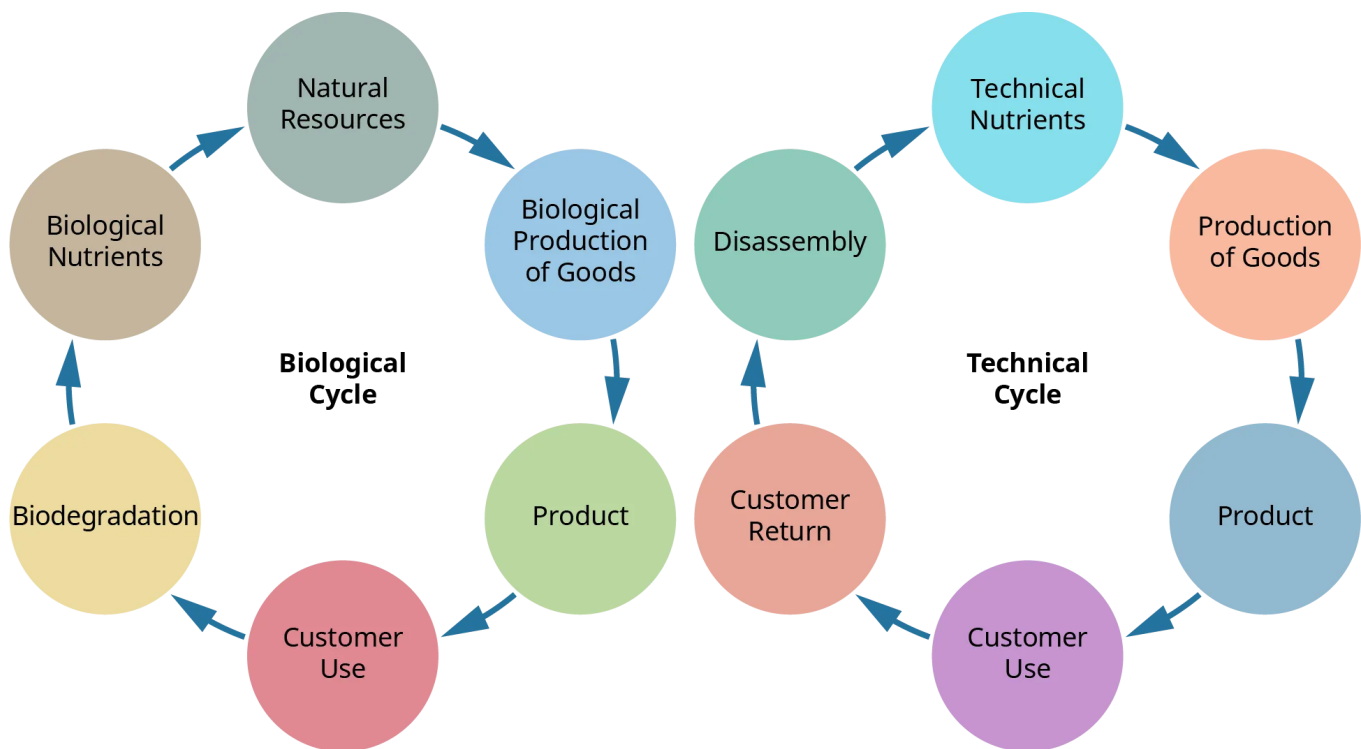


Figure 9.15 The Cradle-to-Cradle Approach (CC BY 4.0; Rice University & OpenStax)

E-commerce introduces an additional challenge: How can companies sustainably ship single products to a customer? Companies must consider protecting the item, efficiency, cost, and sustainability in their e-commerce packaging. Companies can reduce packaging and use recycled or recyclable materials in their packaging. Additionally, companies can provide return-ready packaging so packages that need to be returned to the manufacturer are the same packages that arrive with the product.

Knowledge Check

It's time to check your knowledge on the concepts presented in this section. Refer to the Answer Key at the end of the book for feedback.

1.

Which of the following is not a type of grocery product packaging?

- a. Paper
- b. Plastic

- c. Metal
- d. Wood

2.

Which of the following is not part of the technical cycle?

- a. Product
- b. Use
- c. Disassembly
- d. Natural resources

3.

Which of the following is a trend in sustainable packaging?

- a. Increasing the amount of packaging
- b. Using boxes
- c. Using only necessary resources
- d. Using plastic

4.

Where can discarded packaging be found?

- a. Water sources
- b. Landfills
- c. On the ground
- d. All of these are correct.

5.

Which part of the cradle-to-cradle approach is regenerative?

- a. Production
- b. Product
- c. Use
- d. Biodegradation

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