



# Chapter 20

## Sustainability, Economics, and Equity

# Sustainability

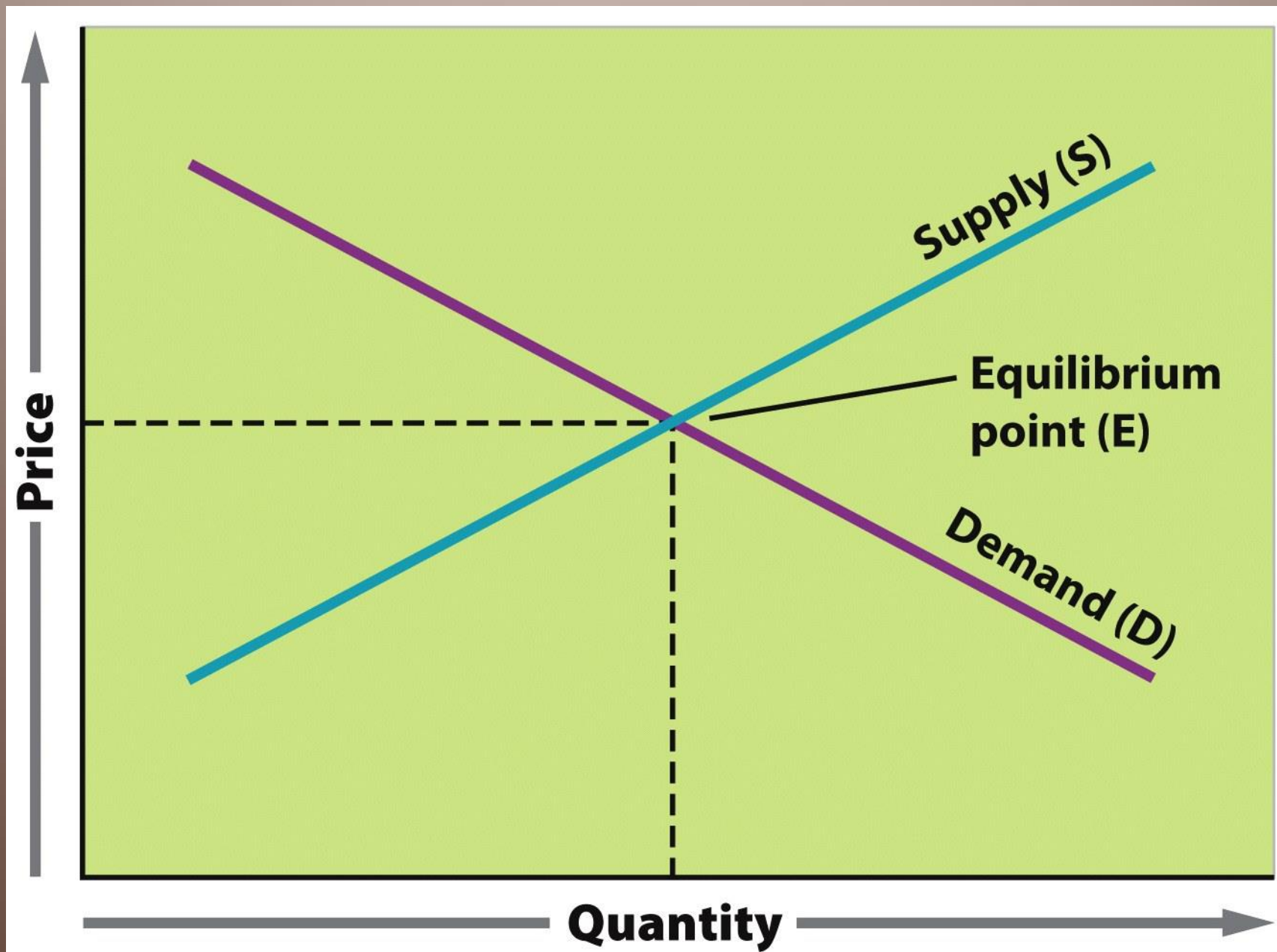
- ▣ Something is sustainable when it meets the needs of the present generation without compromising the ability of future generations to meet their own needs.



# Scarcity

- ▣ A market occurs whenever people engage in trade.
- ▣ In a market economy, the cost of a good is determined by supply and demand.

# Scarcity



**Figure 20.1**  
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# Supply

- ▣ The supply curve (s) shows how many units that suppliers of a given product or service are willing to supply.
- ▣ If you are the only supplier of this product, and many people want it, you are likely to be willing to produce many of the product.
- ▣ However, if there is competition for your product, you may be concerned how many you can sell and will produce less now that you share the market with other suppliers.

# Demand

- ▣ The demand curve (D) shows how much of a good consumers want to buy.
- ▣ Factors that determine demand include income, price of the good, tastes, expectations, and the number of people who want the good.
- ▣ The demand curve slopes downwards because as the price of the good rises, the demand declines.

# The Law of Demand

- ▣ When the price of a good rises, the quantity demanded falls and when the price falls, demand rises.

# The Law of Supply

- ▣ When the price of a good rises, the quantity supplied of that good will rise and when the price of a good falls, the quantity of the good supplied will also fall.

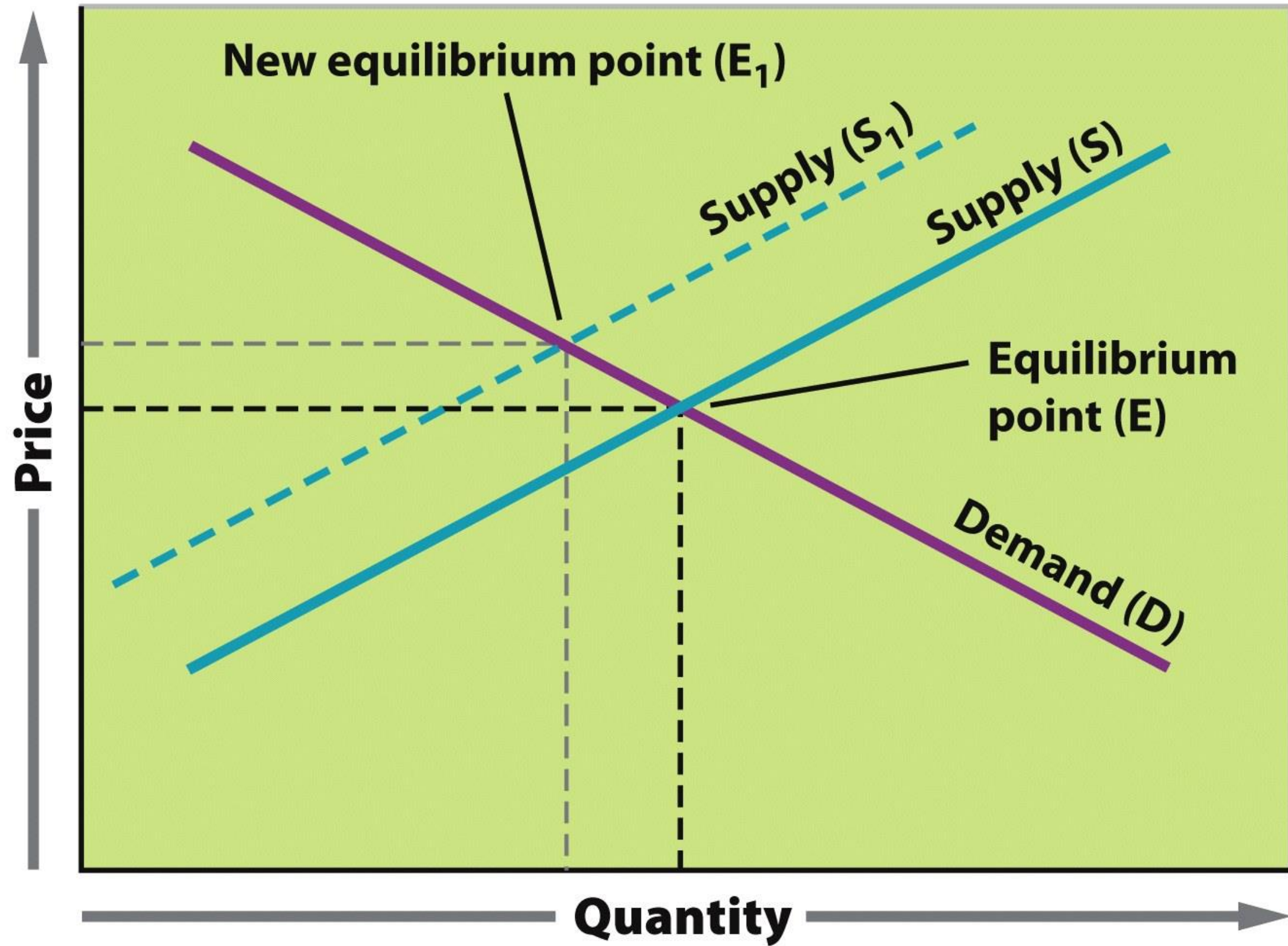


# Equilibrium

- ▣ When the price of a good comes to an equilibrium point and the two curves (S and D) intersect on the graph.
- ▣ At this price, suppliers find it worthwhile to supply exactly as many of the product as consumers are willing to buy.

# Externalities

- ▣ The costs or impact of a good or service on people and the environment not included in the economic price of that good or service.
- ▣ Ex. costs of using common resources such as water, air, land, or the oceans and the costs of air and water pollution or solid waste products.

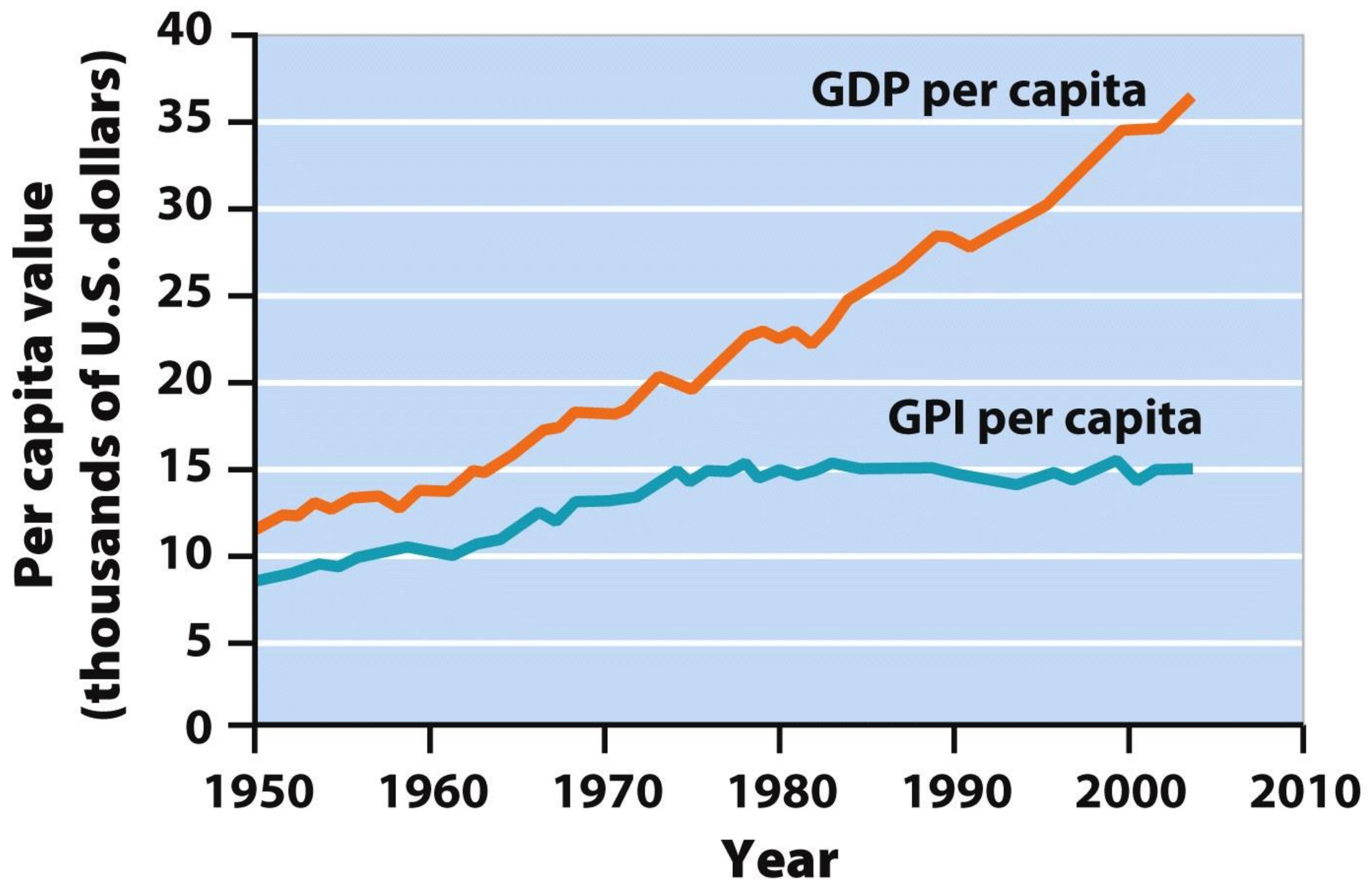


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# Wealth and Productivity

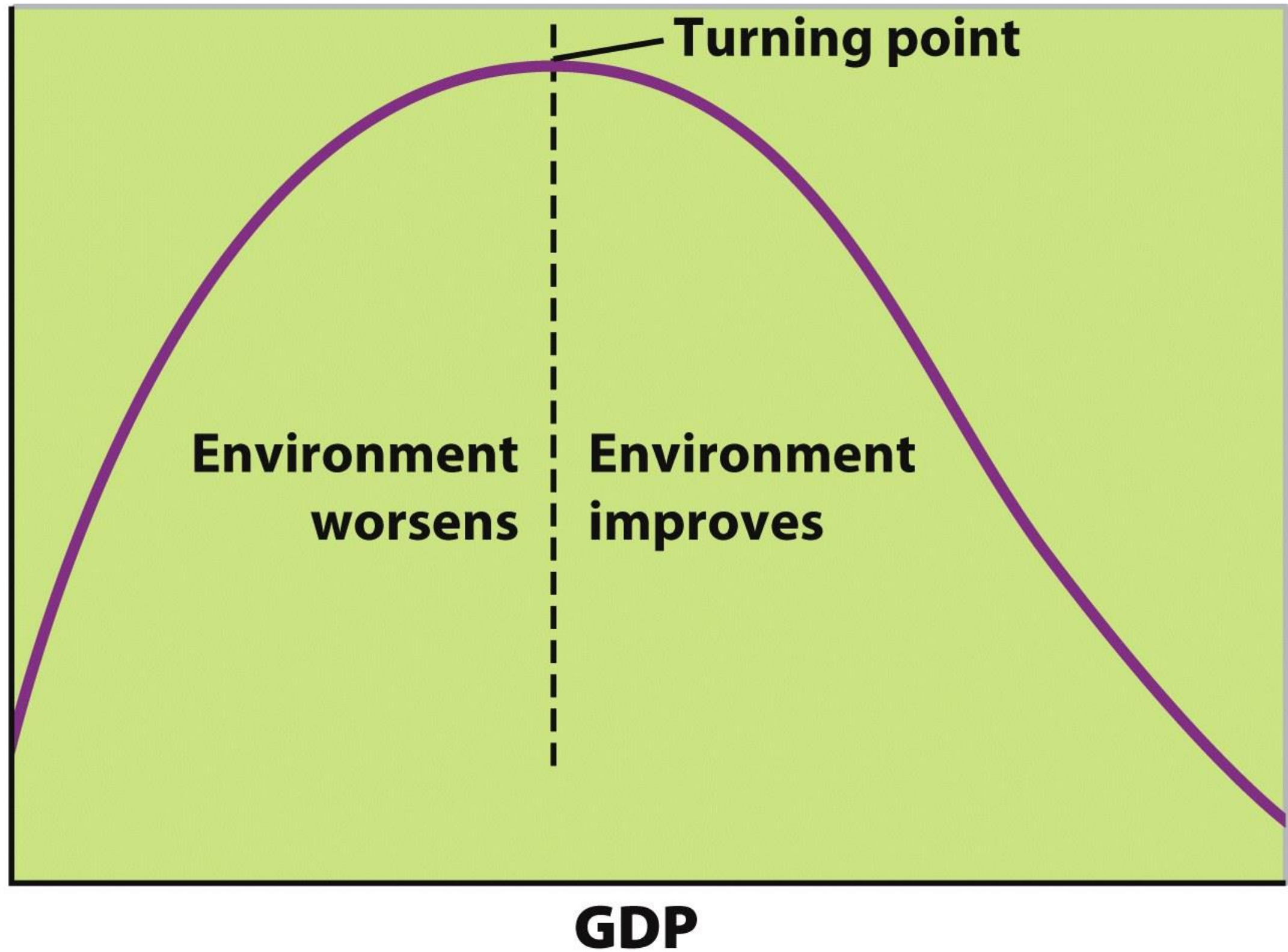
- ▣ GDP (gross domestic product)- the value of all products and services produced in a year in a given country. GDP does not reflect externalities such as pollution.
- ▣ GPI (genuine progress indicator)- attempts to address this shortcoming by including measures of personal consumption, income distribution, levels of higher education, resource depletion, pollution, and the health of the population.





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**Environmental degradation**



**Figure 20.4**

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# Microlending

- The practice of loaning small amounts of money to people who intend to start a small business in less developed countries.

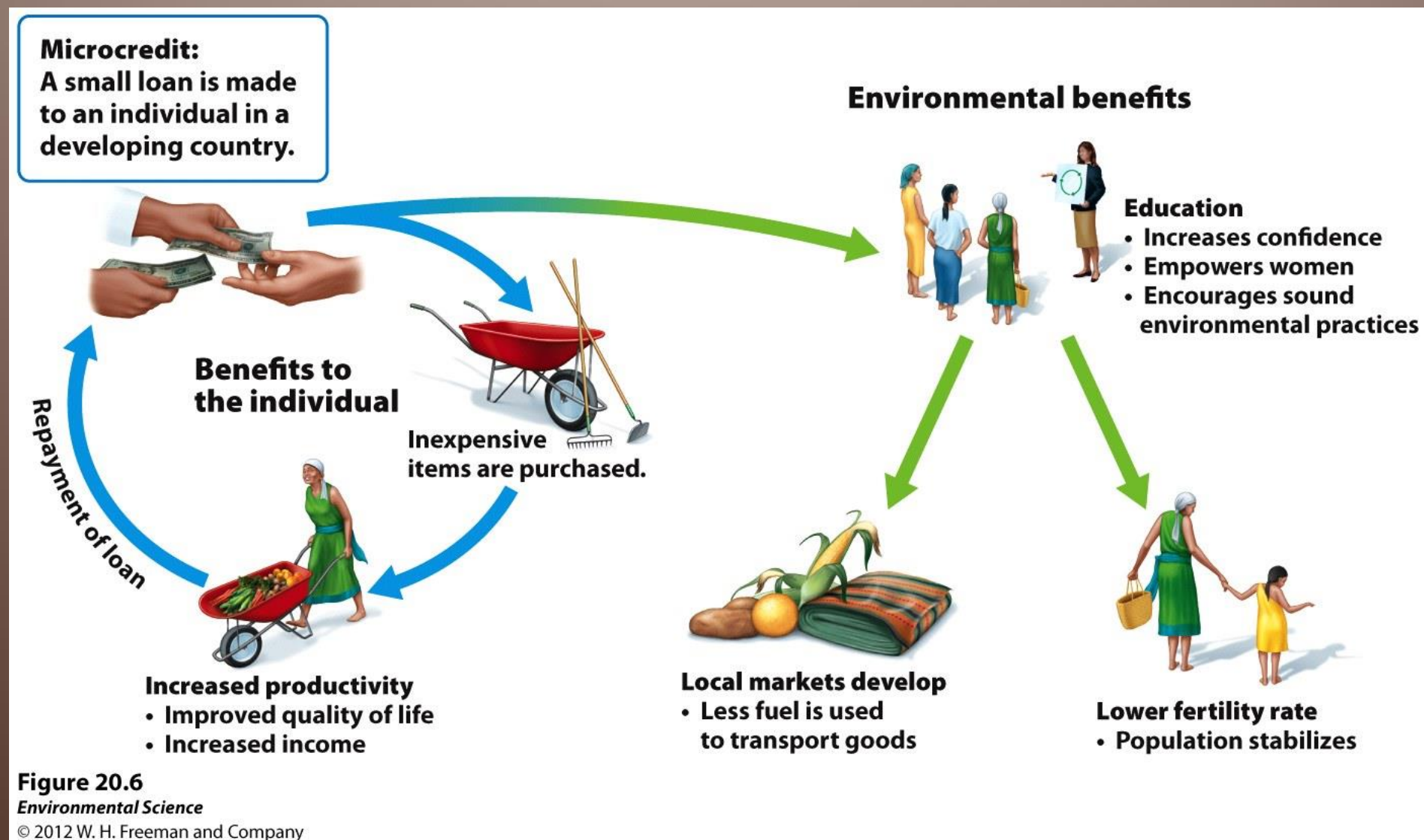
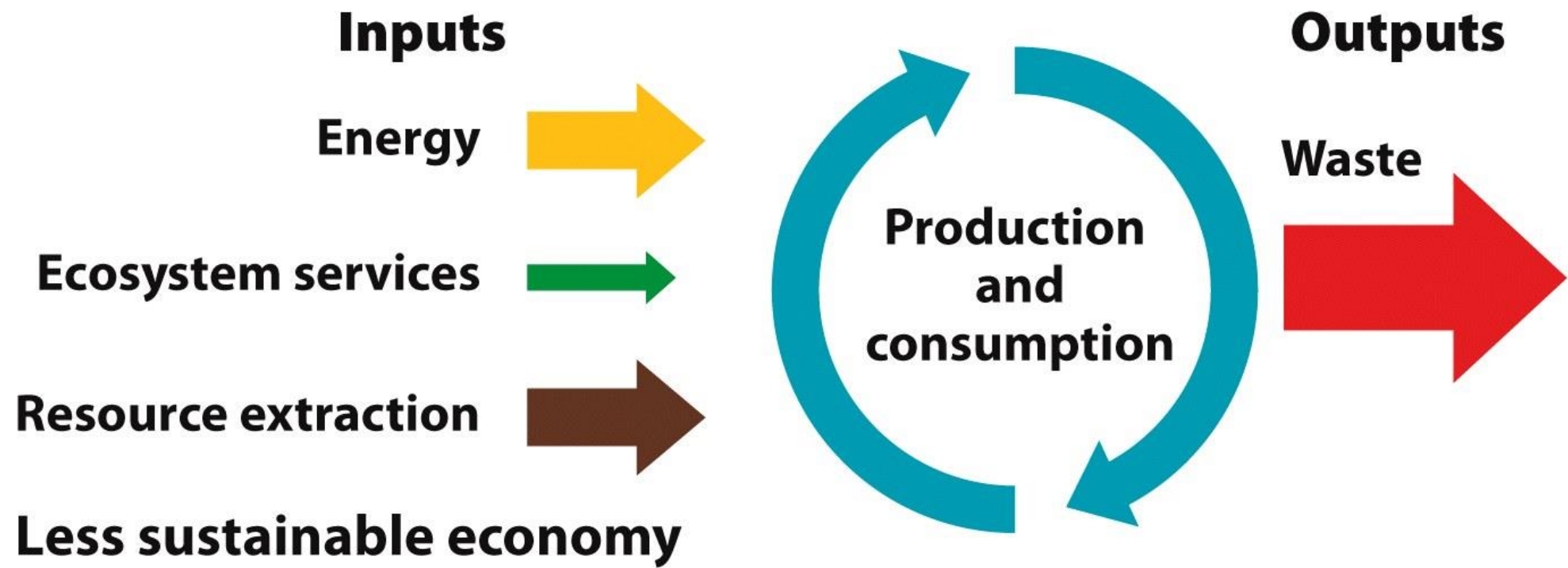
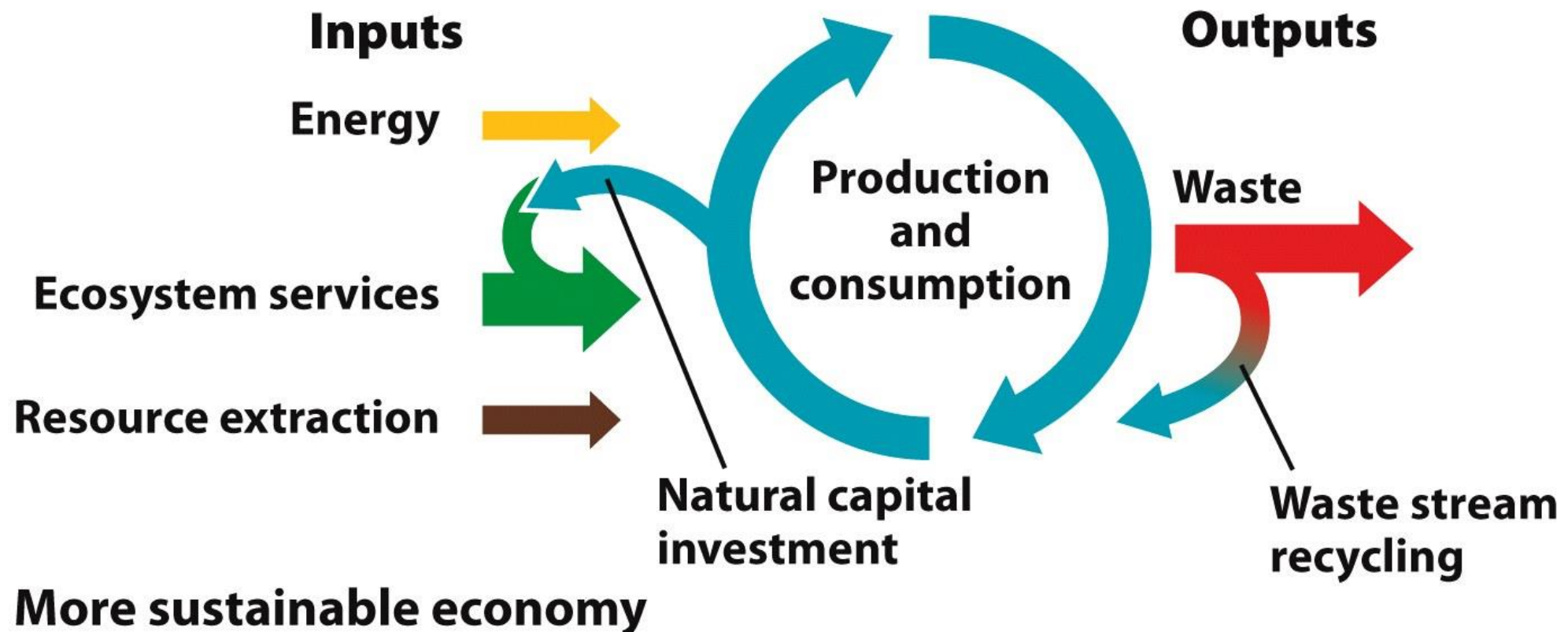


Figure 20.6  
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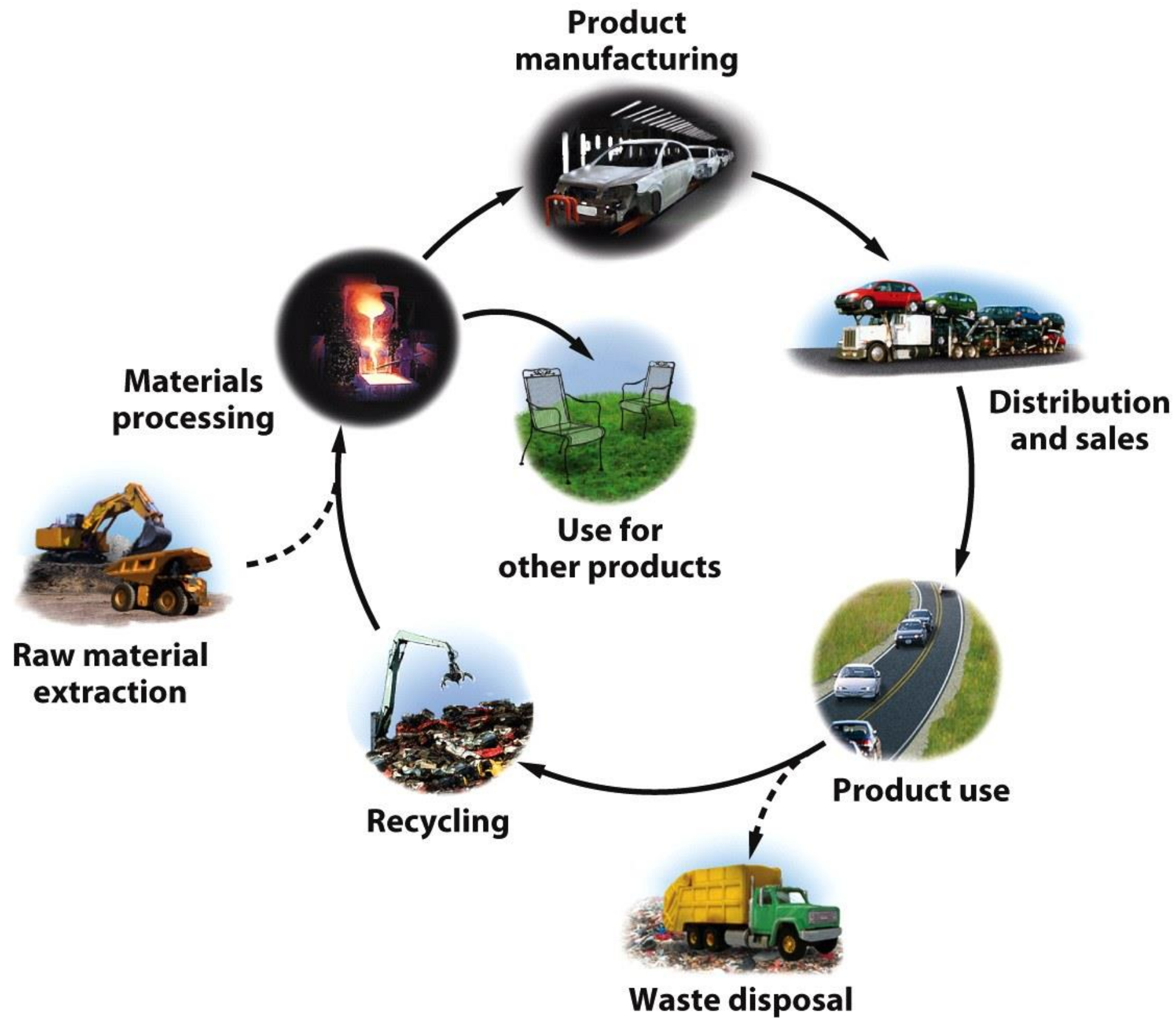


**Figure 20.7a**  
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**Figure 20.7b**  
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**Figure 20.8**

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# Environmental Worldviews

- ❑ Anthropocentric- human-centered, considers that human beings have intrinsic value and nature should provide for our needs.
- ❑ Biocentric- life-centered, says humans are just one of many species on Earth, all of which have equal value.
- ❑ Ecocentric- Earth-centered, places equal value on all living organisms and the ecosystems in which they live, and it demands that we consider nature free of any associations with our own existence.

# World Agencies

- ▣ United Nations (UN)
- ▣ United Nations Environment Program (UNEP)
- ▣ The World Bank
- ▣ The World Health Organization (WHO)
- ▣ The United Nations Development Program (UNDP)

# United States Agencies

- ▣ The Environmental Protection Agency (EPA)
- ▣ The Occupational Safety and Health Administration (OSHA)
- ▣ The Department of Energy (DOE)

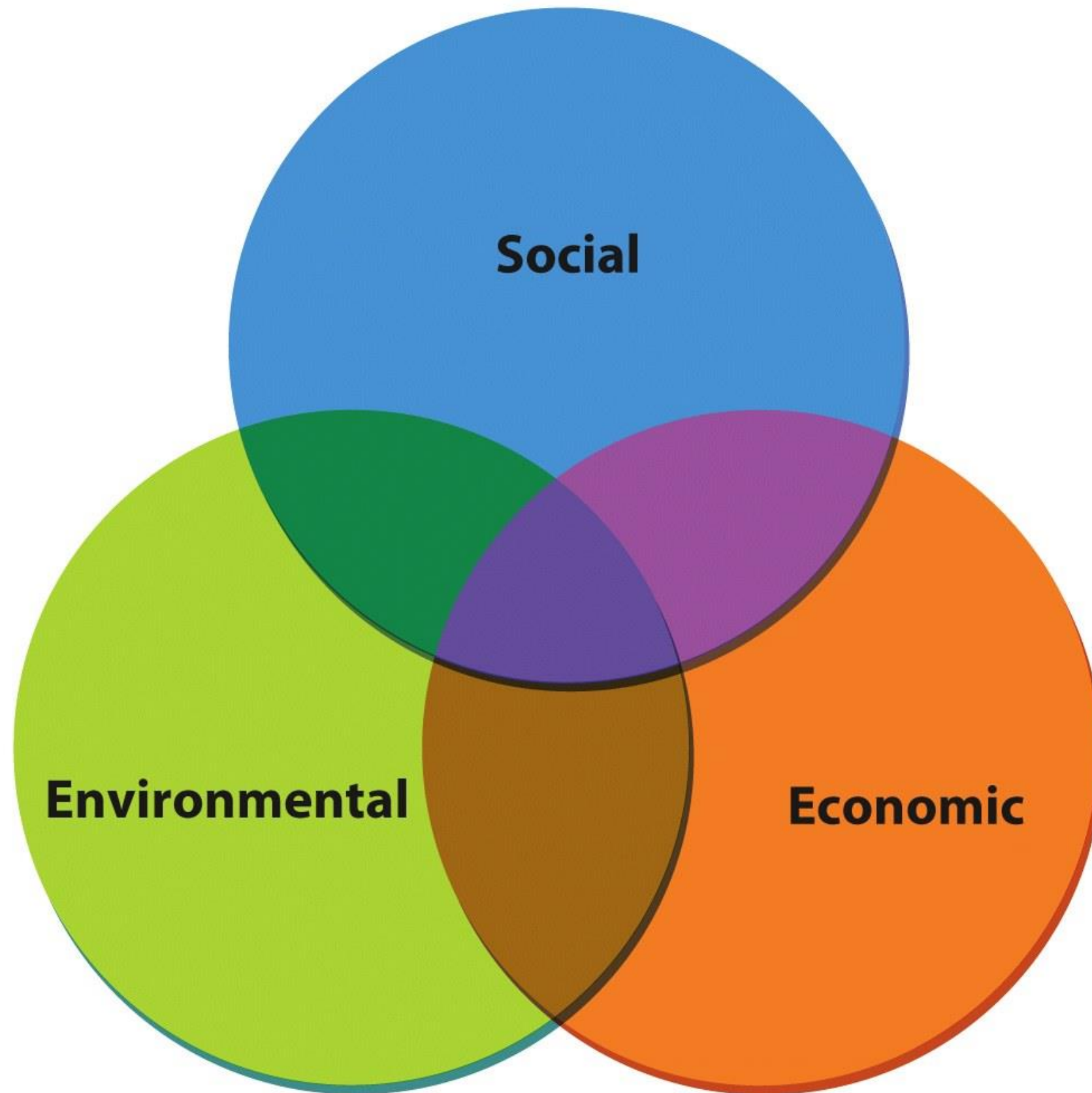


**TABLE 20.1**    **Major U.S. legislation for promoting sustainability**

Act	Abbreviation	Year enacted	Purpose	Prime example of a success
National Environmental Policy Act	NEPA	1970	Enhance environment; monitor with a tool: the Environmental Impact Assessment	Protection of coral formation and sea turtles has occurred.
Occupational Safety and Health Act	OSHA	1970	Prevent occupational injuries, illness, death from work-related exposure to physical and chemical harm	Worker training and knowledge of toxins has increased.
Endangered Species Act	ESA	1973	Protect animal and plant species from extinction	Bald eagle, peregrine falcon, and gray wolf populations have recovered.
Clean Air Act	CAA	1970	Promote clean air	Sulfur dioxide reductions from cap-and-trade have occurred.
Clean Water Act	CWA	1972	Promote clean water	Swimmable and fishable rivers across the United States have increased.
Resource Conservation and Recovery Act	RCRA	1976	Govern tracking and disposal of solid and hazardous waste	Numerous brownfields and contaminated lands have been cleaned up.
Comprehensive Environmental Response, Compensation, and Liability Act	CERCLA, also called Superfund	1980	Force and/or implement the cleanup of hazardous waste sites	Dozens of Superfund sites have been cleaned up around the United States.

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# Millennium Development Goals

- ▣ Eradicate extreme poverty and hunger
- ▣ Achieve universal primary education
- ▣ Promote gender equality and empower women
- ▣ Reduce child mortality
- ▣ Improve maternal health
- ▣ Combat HIV / AIDS, malaria, and other diseases
- ▣ Ensure environmental sustainability
- ▣ Develop a global partnership for development

# Environmental Justice

- ▣ The inequitable distribution of pollution and of environmental degradation with their adverse effects on humans and ecosystems.
- ▣ People that are of lower incomes and minorities that have a disproportionate exposure to environmental hazards.