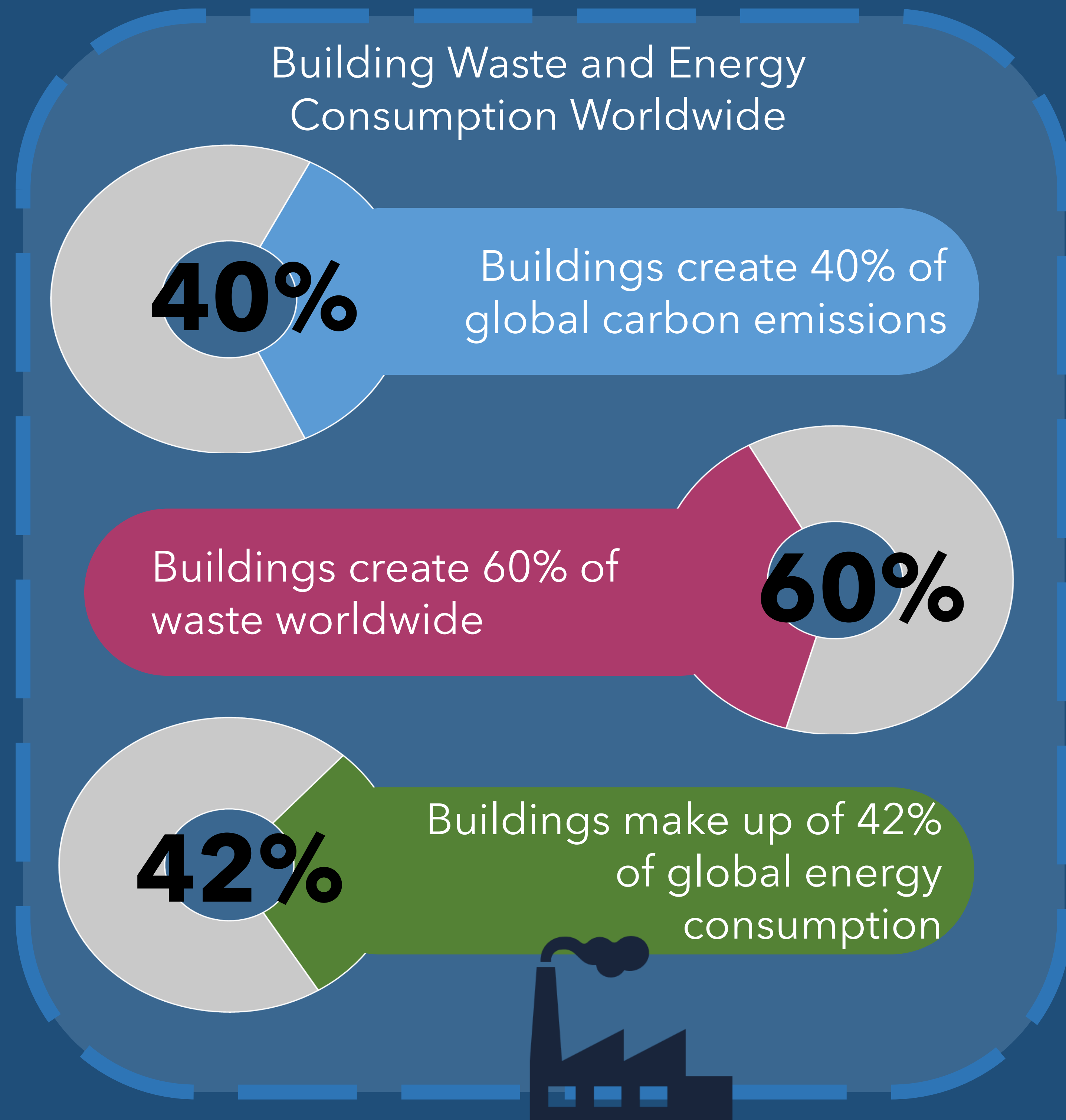


REGENERATIVE BUILDING DESIGN

By Elizabeth Price

PROBLEMS

1. The construction and operation of buildings consume the largest number of primary resources in the world.



2. Conventional building practices are built upon the idea of “linear flow,” conceptualized during the Industrial Revolution. Linear flow operates under the assumption that resources are abundant and accessible, which is no longer true in the 21st century.

3. Due to population growth, the necessity for decent housing is more apparent. However, at the current rates of construction, humans are using up natural resources more quickly than nature can replenish them.

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Challenges for Designing Urban & Housing Environments

- Climate change
- Biodiversity
- Scarcity of resources
- Population growth
- Urbanization
- Human health

SOLUTION

Architects and building professionals should adopt the regenerative building paradigm, which is an approach to architectural design that creates a continuous, self-renewing system by integrating architecture into natural processes.

DESIGN APPROACHES ENVIRONMENTAL IMPACT

Conventional design practices follow the outdated linear flow model, which prioritizes efficiency over environmental impact.

Sustainable architecture are net-zero systems, made to create no environmental impact. Still, climate and environmental concerns demand for net-positive systems.

Regenerative architecture are net-positive systems, contributing positively to nature.



RECOMMENDATIONS: From a Linear Model to a Cyclical Model

Renovation: 87% of existing buildings will be widely used until 2050, but these buildings can be renovated to include “maximum exposure to natural light, natural ventilation and the collection of precipitation” (Stamenković et al., 2018).

Resource Conservation and Reuse: Conventional practice disposes waste materials into landfills, but regenerative design calls for reuse of waste as building materials for new constructions, which avoids filling landfills and extracting more raw materials (Stamenković et al., 2018).

Material Effectiveness: Biodegradable and recycled materials should be used. Scholars recommend using locally available materials because it broadens regional economies. However, it’s important to note that materials can be effective at reducing energy consumption but bad for the environment; in these cases, it’s best to choose materials that are environmentally friendly (Baper et al., 2020).

