

Carbon-Neutral Urban Redevelopment



Urban areas are notorious for high energy consumption and carbon emissions. This challenge involves making and implementing a plan to redevelop an existing urban neighborhood so that it can be carbon neutral. In addition to considering the needs and preferences of the community, complex strategies are required, such as sustainable building designs, renewable energy integration, and sustainable transportation solutions.

Objective

Design and “implement” a comprehensive plan to transform an existing urban neighborhood into a carbon-neutral community. The goal is to significantly reduce or eliminate carbon emissions associated with energy use, transportation, and construction while maintaining a high quality of life for residents.

Constraints

1. Ensure the safety and well-being of current residents during the redevelopment process.
2. Adhere to urban planning regulations and obtain necessary permits.
3. Keep the project cost-effective and consider the financial implications for both residents and developers.
4. Minimize disruption to existing infrastructure and services during construction.

Design Thinking Steps

1. Empathizing: Conduct role-played interviews with current residents to understand their needs and concerns related to the redevelopment. Gather input from urban planners, architects, and environmental experts.
2. Re-defining to understand: Identify key sources of carbon emissions in the neighborhood and create a human-centered problem statement focused on achieving carbon neutrality.
3. Ideating: Discover potentially innovative solutions that encompass sustainable building design, renewable energy integration, efficient transportation systems, and community engagement.
4. Prototyping: Develop comprehensive plans and prototypes for carbon-neutral infrastructures and transportation and housing solutions. Consider incorporating green spaces and community amenities.



Sustainability Challenge: Advanced

5. Evaluating: Engage residents and stakeholders in reviewing the plans and prototypes. Collect feedback/feedforward and refine the design based on input and feasibility assessments.
6. Implementing: Develop a plan for creating a new business specializing in replicating your process in other urban areas. Create a phased implementation plan, considering construction logistics, funding sources, and community engagement strategies.