



Urban Issues and Challenges

Sustainable Urban Living - BedZED

read

quiz



The Big Picture



Background

The Beddington Zero Energy Development (BedZED) is an eco-friendly housing community in Hackbridge, Southwest London, designed to achieve zero carbon emissions. BedZED is a leading example of sustainable urban living.



Water

BedZED's water management reduces consumption to half the national average, crucial for London's water-stressed environment.

- **Grey Water Recycling:** Wastewater from showers, sinks, and washing machines is filtered using reed beds and reused for toilet flushing and garden irrigation, reducing freshwater demand.
- **Rainwater Management:** Roof rainwater is redirected to rivers via pipes, bypassing the storm drainage system to save energy and reduce treatment.
- **Permeable Surfaces:** Pathways allow water to filter back into the water table, reducing urban runoff and flooding.
- **Water-Saving Fixtures:** Homes are fitted with aerators, low-flow showerheads, and smaller baths to cut water usage.



Energy

BedZED has achieved a **90% reduction in energy use** through sustainable design and renewable energy solutions.

- **Insulation:** Thick walls and triple-glazed windows retain heat, reducing heating needs.
- **Natural Ventilation:** Buildings are designed to circulate air naturally, removing the need for air conditioning.



Key Terms



Sustainable energy supply – Energy that can be used well into the future without affecting future generations.



Renewable energy sources – An energy resource that cannot be exhausted.



Solar energy – Electricity generated by solar panels.

- **Solar Heating:** South-facing sun spaces capture solar heat, reducing reliance on heating systems.
- **Low-Energy Appliances:** A-rated appliances and LED lighting minimise electricity use.
- **Solar Panels:** Generate electricity for appliances, lighting, and car charging points.
- **Biomass CHP System:** Burns biomass to produce heat and electricity efficiently.



Creating Green Space

BedZED integrates green spaces to enhance biodiversity and improve residents' quality of life through:

- **Green Roofs:** Retain rainwater for irrigation and support diverse plant and wildlife species.
- **Community Gardens:** Provide spaces for residents to grow food, improving air quality and offering recreational opportunities.
- **Wildlife Corridors:** Landscaping encourages wildlife movement and supports urban biodiversity.



Waste recycling

BedZED minimises waste through effective recycling and sustainable construction practices including:

- **Recycling Bins:** Homes have bins for sorting materials like plastics, glass, and paper.
- **Composting:** Organic waste is composted on-site and used in community gardens.
- **Sustainable Construction:** Buildings were constructed using recycled and sustainably sourced materials, reducing environmental impact.