

## BedZED BEDDINGTON ZERO ENERGY DEVELOPMENT

### Hackbridge, Sutton, UK



Size: 100 homes

Dates: 2000-2003

Team: Peabody Trust, BioRegional Development Group, Bill Dunster Architects

Description: BedZED is a brownfield development that contains a mixed use sustainable community with residences, office space, community space.

Intent: Zero-Carbon development that encourages a lifestyle dedicated to reducing electricity, heating, water and fossil fuel transportation demands.

S

Sit+Place

GOALS: (Food) Promote a local food network ; (Habitat+Biodiversity) Increase biodiversity in the area ; (Transport) 50% reduction in resident vehicle mileage

STRATEGIES: (Food) Farmers market, walking distance to community garden ; (Habitat+Biodiversity) Garden plots, balcony gardens, green roof, reed wetland for waste water filtration ; (Transport) Car sharing, bicycle infrastructure, walking paths between units, vehicle parking on periphery, proximity to public transportation

W

Water

GOALS: Hot water consumption reduction by 33%, potable water consumption reduced by 33%, on site water treatment.

STRATEGIES: Water efficient appliances, water meters monitor consumption, resident education, biofiltration gardens that filters blackwater into greywater for use in non-potable applications.

E

Energy

GOALS: Zero-carbon development, 90% reduction in space heating needs, generate sites energy on site.

STRATEGIES: Passive solar heating, passive ventilation and heat exchangers, district hot water, PV arrays, energy efficient appliances, monitor performance.

E

Equity

Percentage of affordable units: 25%-50%.

GOALS:

STRATEGIES: Variety of housing options, outdoor spaces and gardens connected to homes, shared public square and sports fields, community center, sports area, outdoor seating area.

M

Materials

GOALS: (Materials) Use low embodied energy materials and construction practices ; (Waste) Waste reduction by 30%

STRATEGIES: (Materials) 52% of materials were sourced within 35 miles, 15% of construction materials were reclaimed or recycled products ; (Waste) Encourage recycling

SUSTAINABILITY MATRIX

		STANDARD	GOOD	BETTER	LIVING COMMUNITY	REGENERATIVE
<b>S</b> Site+Place	Limits to growth			Built on greyfield of brown-field, developed for density, conserves habitat land		
	Urban Ag		Some community garden space			
	Habitat Exchange	May contain parks, landscaping, little emphasis on storm water management				
	Human Powered Living			Walkable streets, bicycle infrastructure, public transit links, car sharing, EV charging stations, easy access to services		
<b>W</b> Water	Net Positive Water			Greywater purification & reuse, on-site treatment of some blackwater, constructed wetlands, stormwater prevention (green-roofs & impermeable surfaces)		
	Net Positive Energy			2030 standards of efficiency, advanced construction techniques, ongoing monitoring to meet goals, net +ve energy goals, carbon neutral goals, 100% renewable energy		
<b>E</b> Energy	Civilized Environment		Community has some groups to promote social connections			
	Healthy Neighborhood Design		Some access to walking trails that connect to amenities, parks, recreation areas			
	Biophilic Environment			Innovative landscaping using native plants, rain gardens, constructed wetlands, access to parks, waterfront, community gardening		
	Resilient Community Connections	Nothing considered/ not reported				
<b>H</b> Health+ Happiness	Living Material Plan			Innovative landscaping using native plants, rain gardens, constructed wetlands, access to parks, waterfront, community gardening		
	Embodied Carbon Footprint			Material selection requirements, proxy standards for reducing CO2 in material selection and construction on-going energy monitoring		
	Net Positive Waste			Reduction in construction waste, material selection for recycled/recyclable materials, innovative waste collection facilities, waste to energy		
	Human Scale and Humane Places			Project is designed to create human-scaled places, promotes culture & interaction		
<b>M</b> Materials	Universal Access to Nature and Place		Access to parks, promotes sense of place, some daylighting strategies for buildings			
	Universal Access to Community Services		Some services and community centers in development accessible by bike/walking			
	Equitable Investment	No contribution to charity				
<b>B</b> Beauty	Beauty and Spirit					
	Inspiration and Education		Some education on developments attributes, some opportunities for community events			

SOURCES:  
<http://www.ecobicester.org.uk/cms/content/north-west-bicester#.V5ozd0srKCg>  
<http://nwbicester.co.uk/2014/01/construction-begins-on-the-uks-first-eco-town/>  
<http://www.fomento.gob.es/nr/rdonlyres/9d6a5dd0-d460-4728-9882-71e4e5edd3ef/95899/5.pdf>  
[http://www.energy-cities.eu/IMG/pdf/BO01\\_EN.pdf](http://www.energy-cities.eu/IMG/pdf/BO01_EN.pdf)  
[http://www.collegepublishing.us/jgb/samples/JGB\\_V8N3\\_a02\\_Austin.pdf](http://www.collegepublishing.us/jgb/samples/JGB_V8N3_a02_Austin.pdf)  
<http://www.peabody.org.uk/our-neighbourhoods/sutton/bedzed/about>

