

Sustainability of Future Cities

1. BedZed:

BedZed (Beddington Zero Energy Development) is an environmentally friendly housing development which is situated in Hackbridge, London. The community is a settlement of houses and offices which aims to create no carbon emissions and have an extremely low eco-footprint. They have done this by adopting these methods:

- Everything that was used to build them except the windows was sourced within a 35 mile radius of the site. Much of the materials that have been used are either being recycled or reused.
- Offices and houses are available on the same site, so that people are within walking distance, and therefore don't have to use a car or public transport.
- The scheme has set up a 'car club' in which there are a fleet of cars that can be rented minutes before use. Furthermore each home has a electric car charging point, and areas to store bicycles.
- A green filter system is used in which water from the sewers is filtered using reeds. The water isn't clean enough to drink, however it is clean enough to flush toilets with.
- The building of BedZed on a brownfield site has educated people to walk to the shops, and understand their carbon footprint e.g. electricity meters are at eye level so the occupant can monitor their usage.
- Each home has a green roof which contains water and is home to 17 species of spider. Homes are insulated with 300mm of insulation to make them energy efficient, as well as triple glazing. Finally wind cows can be opened to naturally ventilate homes in the summer without the need of air conditioning.

10 principals of sustainable living:

1. Zero carbon
2. Zero waste
3. Sustainable transport
4. Sustainable materials
5. Local food
6. Sustainable water
7. Land and wildlife
8. Culture and heritage
9. Equity and local economy
10. Health and happiness

BedZed did have a few problems though. The homes and whole development cost a lot of money. The green filter system using reeds failed and therefore was out of action for seven months. Finally being carbon neutral is very difficult because despite the fact that there are car sharing schemes, many people still drive their own cars.

2. Dongtan, China:

Dongtan is a plan for a new eco-city on the island of Chongming in Shanghai, China. The population of the city was initially going to be 10,000, it was then planned to grow to 1/3 the size of Manhattan and accommodate up to 500,000 people in three areas. Construction though has never started due to permissions needing to be granted.

The goal that Arup (British engineering company) and China was to try and achieve a close to zero carbon zero waste city. It claimed that it would have an eco footprint 60% smaller, will require 66% less energy, will produce 40% of energy from bio-energy and emit zero CO₂.

The development of this city was meant to be pioneering and lead the way in the development of new sustainable cities around the world. Corruption in the leadership, and the idea that a newly industrialised country was going to invest billions in an over ambitious city was partly its downfall. Furthermore many saw that the people should have more of a say rather than just the government.

