

Sustainable Cities

What are sustainable cities?

Cities that protect quality of life for future generations.

- Have minimal impact on the environment by
 - Minimising inputs of energy, water and other key resources.
 - Minimising outputs of waste, air and water pollution.

What can cities do to
become sustainable?

- Provide current and future residents with meaningful employment.
- Provide affordable quality housing for all residents that has access to utilities, services and transportation.
- Minimises the use of non-renewable resources (eg fossil fuels). Possible measures include: encourage use of renewable resources eg photo-voltaic cells, promoting public transport, reducing waste, re-cycling waste, improving building regulations. Also includes conservation of historical assets (eg buildings).

- Use finite renewable resources sustainably. Eg draw water from wells at sustainable rates. Educate residents of acceptable usage rates.
- Preserve green space eg parks and play areas. Encourage brownfield developments.

Actions that can make
this happen include....

Developing effective integrated transport systems

How will this help?

Reduces congestion, noise and emissions of toxic gases and other pollutants.

Examples:

- London has integrated its bus, rail and underground transport systems making it quicker and easier for people to move around the city via their single payment 'Oyster Card'.
- London, Paris & Nanjing have cycle hire systems that aim to encourage users to pedal rather than drive.

- Singapore and Hong Kong both have Electronic Road Pricing (ERP) systems where drivers pay tax according to how far they drive. The result - people tend to use their cars only when they really need them
- Encourage the development of electric powered vehicles. Eg In New York City taxis must be hybrid or low-emission vehicles. Electric bicycles are commonplace in China. Consequences include cleaner air and fuel savings for drivers.

Improving Building Quality

- Grants and legal tenure for shanty dwellers (sites and services schemes) to help improve the housing stock.
- Adding solar panels to buildings
- Retrofitting old buildings with modern insulation technology, LED lighting, high efficiency windows and doors
- Net-zero energy buildings (they generate as much energy as they consume). In the EU this will become law for all new buildings from 2018 onwards.

Reducing Rural-urban migration

- Outsource work to rural areas making them more appealing. eg Village of Ethakota in Andhra Pradesh, India has become a centre for outsourced data processing work for Indian IT firm Satyam. Wages are lower, but quality of life is much higher for those living and working there.

Improving management of water resources

- Dalian, China has a scarcity of fresh water so focuses on water conservation.
- Orange County in California is recycling waste water and replenishing ground water supplies with it.
- Singapore uses reverse-osmosis to desalinate sea water in order to generate the fresh water that it needs.

Introduction and enforcement of laws relating to sustainability

- 2007 China's State Council ordered all government buildings to set their thermostats at a minimum of 26 degrees to reduce electricity consumption due to air conditioning.
- Differential energy pricing - Lower prices for the most efficient producers. Results in the closure of the least efficient producers.
- Laws that cut allowable emissions from vehicles are now applied in many countries.

- Change the way that utilities companies charge for electricity, water and gas so that consumers are encouraged to reduce consumption and the utilities are encouraged to help consumers reduce their consumption.

Treatment & processing of waste

- Encourage households to sort waste for recycling by providing different bins for different waste.
- Composting of organic waste.

Preserving or expanding park space

- Eg Central Park in New York and the many parks of London cannot legally be replaced by buildings or roads. In Dalian, China the mayor is seeking to expand park space. Why? Because it creates an attractive environment for the types of highly skilled and highly mobile migrants the city needs to be successful in the future.