Green Cities Lesson 4, Strategy 4

Sustainable Development

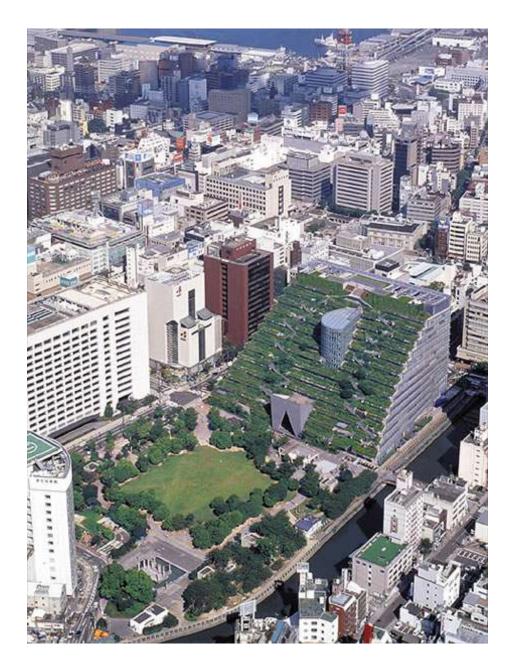
Photo courtesy of courtesy of <u>DOE/NREL</u> I Photographer: Katrin Scholz-Barth The Chicago City Hall green roof helps cool the building, reduce energy costs, minimize water run-off, and improve air quality.



http://ecosalon.com/hightech-green-roof-technologyin-architecture/

ACROS Fukuoka,

in Fukuoka City, Japan. 35,000 plants, 76 species – and the city's best view from an office window.



The Sustainable Green Roof for Living Laboratory in Boston

http://www.architecture-view.com/2010/09/04/the-sustainable-green-roof-for-living-laboratory-in-boston



Vertical Farming in Skyscrapers

Benefits of growing plants in cities:

- Local transportation costs
- Disease free food
- More productive year round growth – many growing seasons per year
- Weather independent quality – indoor crops not damaged by weather events

http://mushroomuniversemalaysiaformalaysian.blogspot.com/2010/11/vertical high-rise-farming.html





A futuristic concept converts skyscrapers into crop farms that could help reduce global warming, improve the urban environment, and help feed the world's growing population. How it would work:

SOLAR PANEL

Energy is supplied by a rotating solar panel that follows the sun; drives interior cooling/heating system.

GLASS PANELS -

Clear coating of titanium oxide collects pollutants and makes rain slide down the glass where it is collected and used for watering.

ARCHITECTURE

Circular design allows maximum light into center.

ECONOMY

The plan combines farming with office and residential stories.

IRRIGATION Filtered, sterilized wastewater from sewage system can be used for irrigation.

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