

Unusual Partnerships - Planning to Adapt?

Blanche Cameron
RESET Development
AECB Conference June 2012

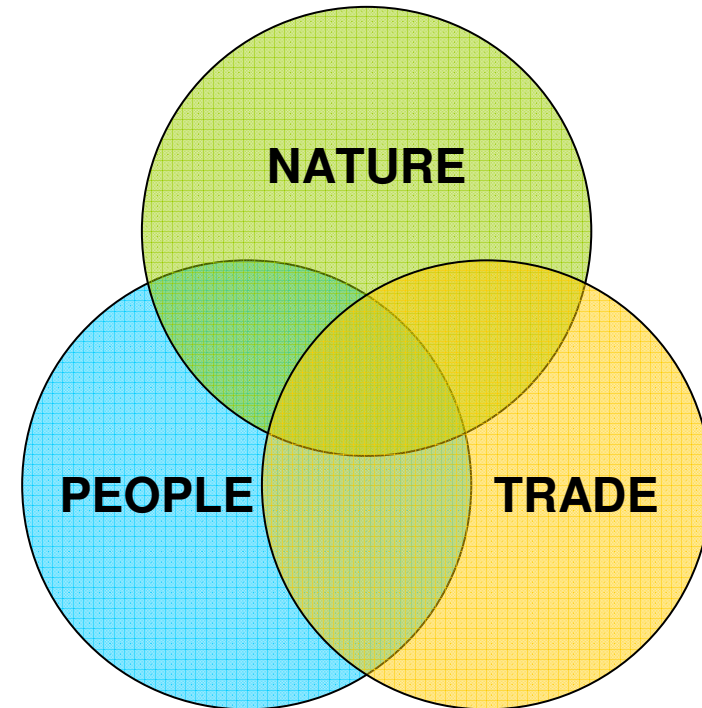
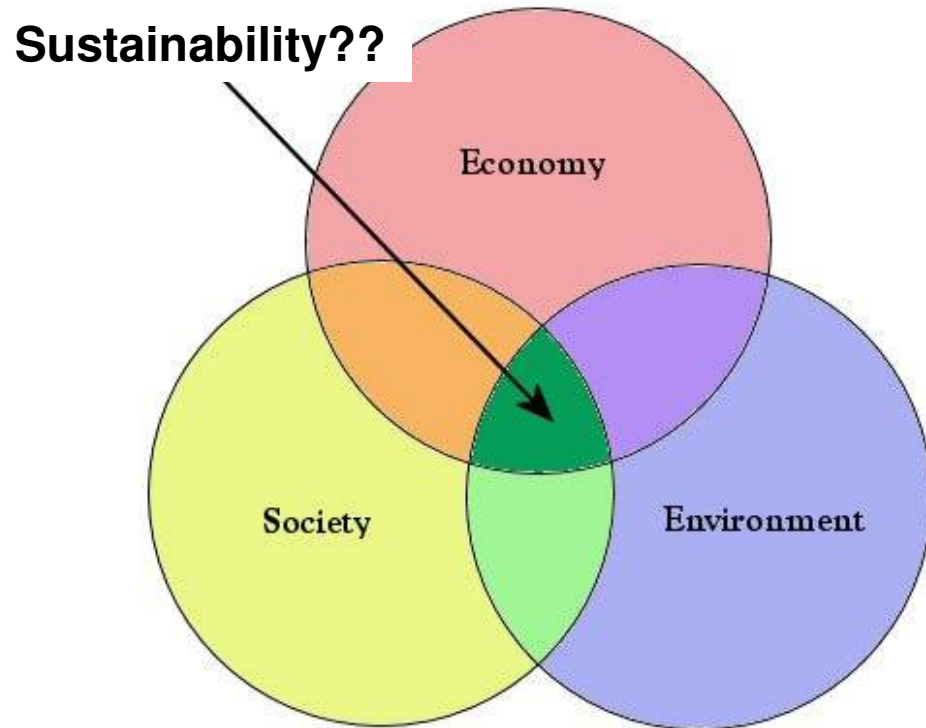
Transport for London roof, St James, Victoria

Green Roof Consultancy

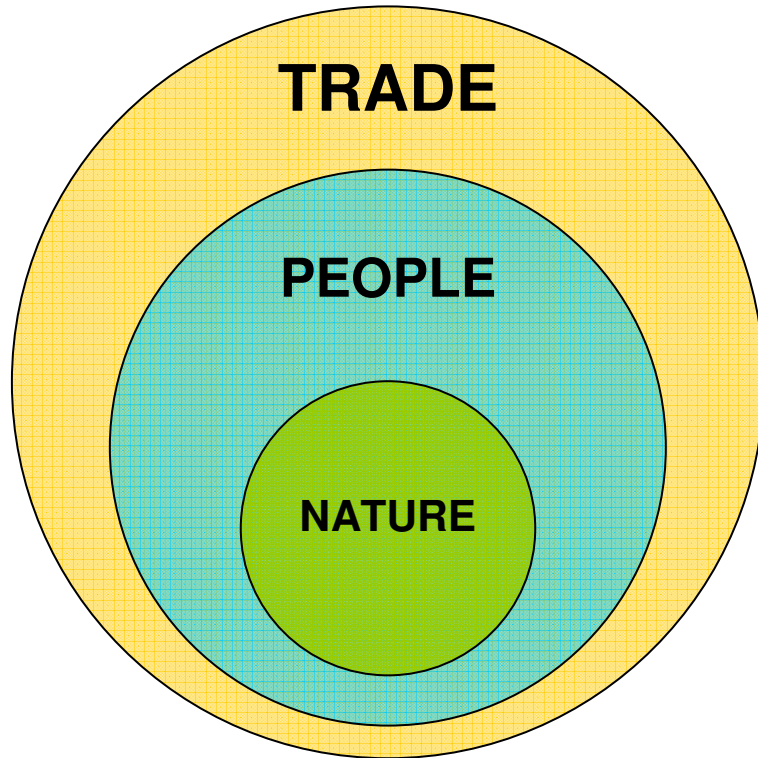


**Welsh Institute of Sustainable Education
Centre for Alternative Technology**

Sustainability?

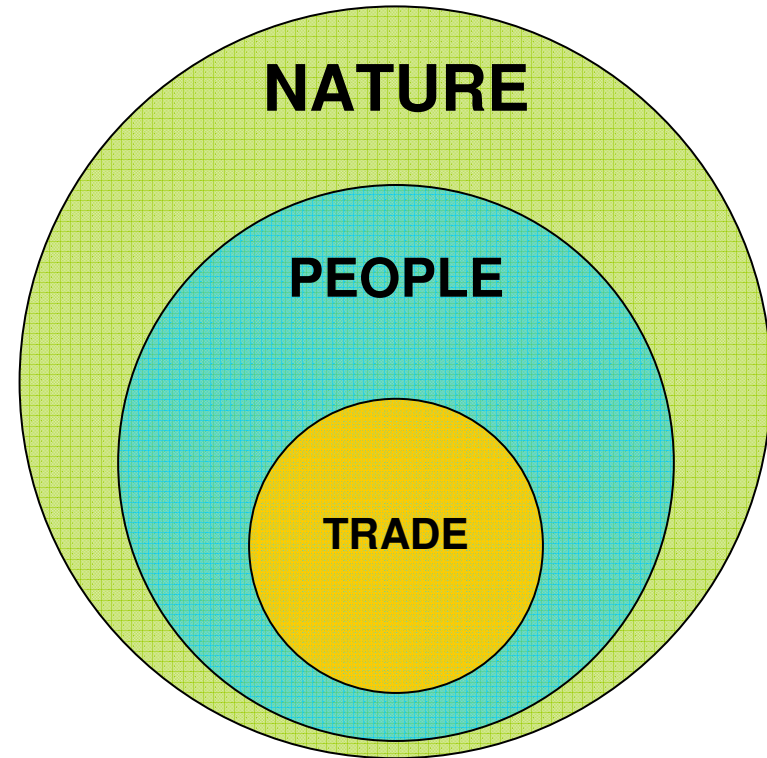


What's wrong with us?



'Balancing environmental, social and economic demands...'

'Sustainable growth...'



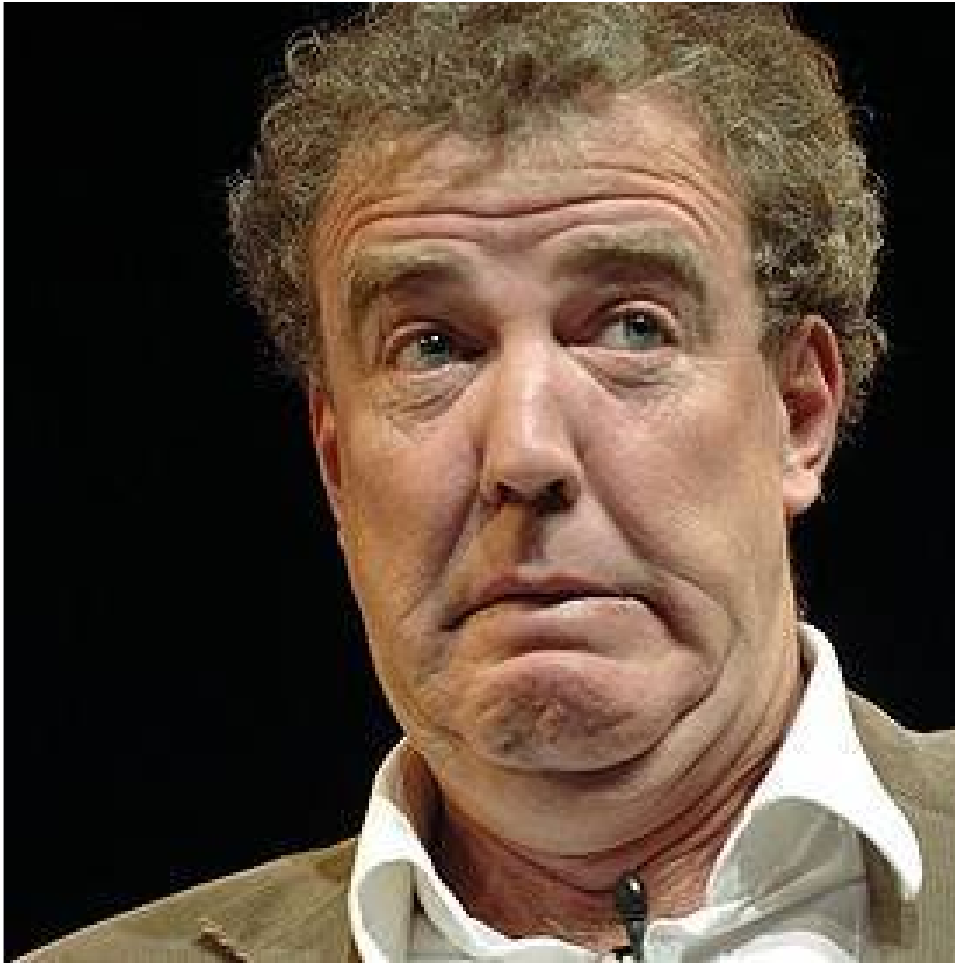
'Restorative Development...'

'Net Positive Development...'

'Ecosystem services approach...'

**Future adaptation:
Problems with nature**

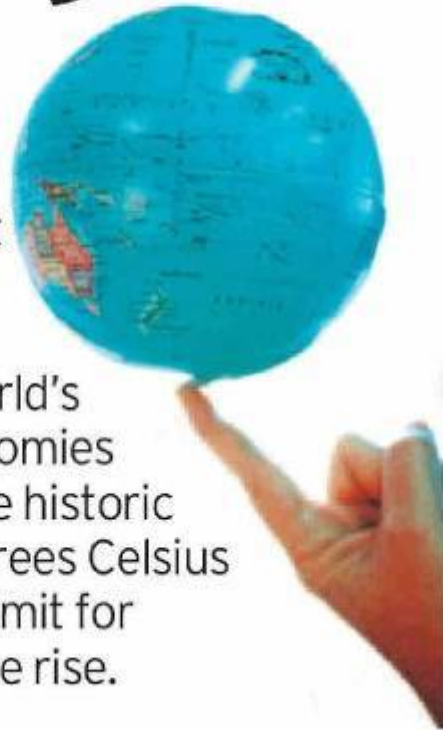
Biodiversity is Life



**Future adaptation:
Problems with climate**

2 degrees

That's the amount the planet will be allowed to warm. Leaders of the world's eight richest economies have agreed to the historic deal setting 2 degrees Celsius as the maximum limit for global temperature rise.



Hurricane Katrina making landfall
Associated Press

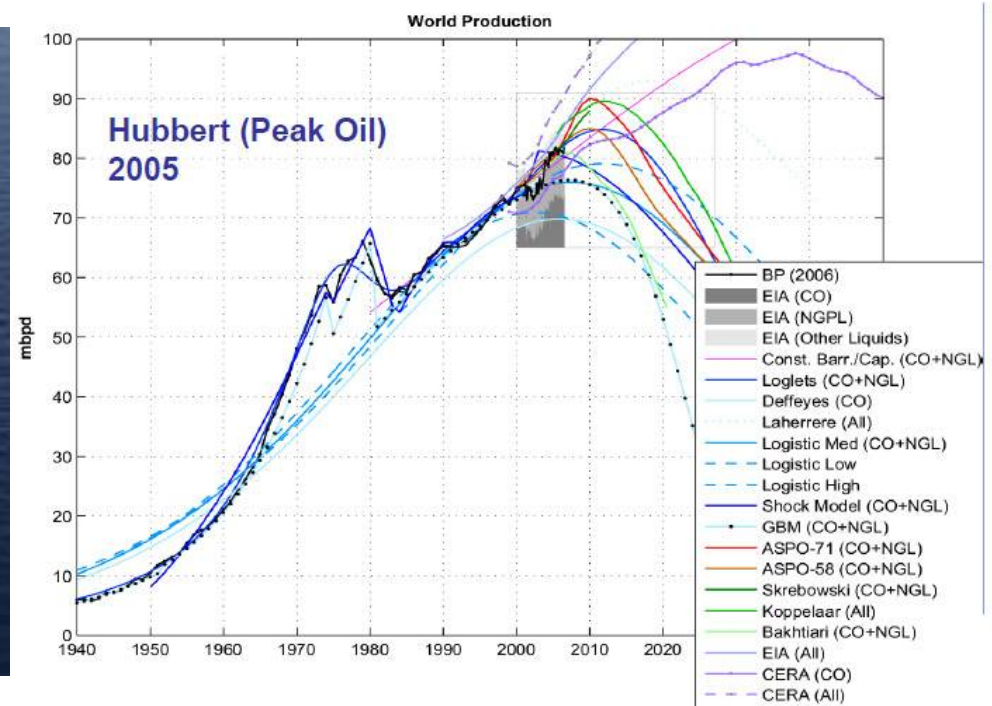


Compound Crises A perfect storm?



**Future adaptation:
Problems with resources**

Resource shortages coming... or here already?



BP Deepwater Horizon oil disaster, Gulf of Mexico
Hubbert's Peak explaining Peak Oil



Hardwood rainforest timber logging, Indonesia



Open face coal mines, Utah



South China droughts, 2009



Computer hardware waste mountains, India

Economic and social instability



**Future adaptation:
Problems with design!**



Lord Foster and his model for City Hall, now home to the Mayor of London

Completely correct buildings

LEED Platinum

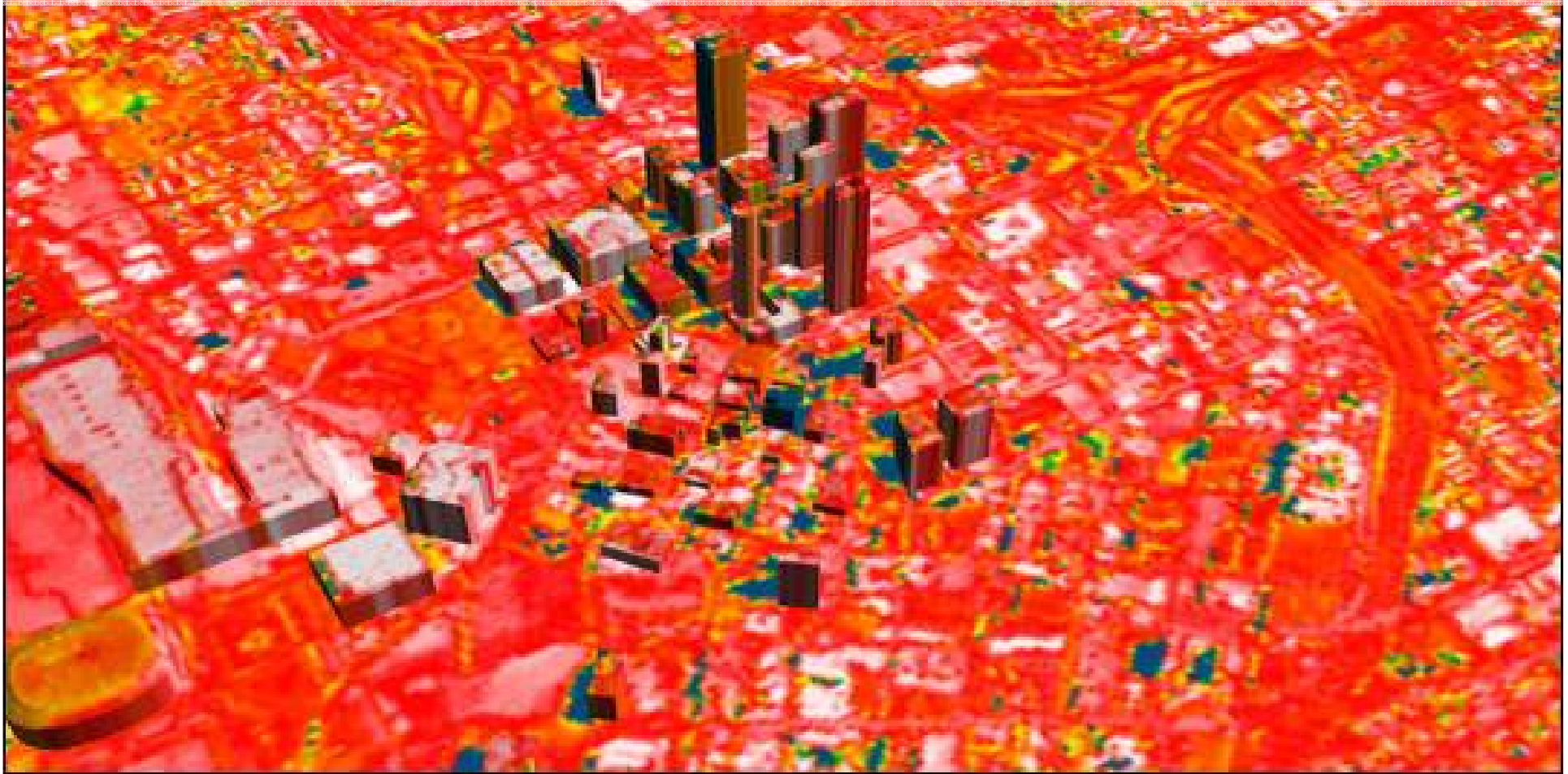
“Eco Towers” :
The first LEED
Platinum
certified mixed-
use skyscrapers
in the Middle
East



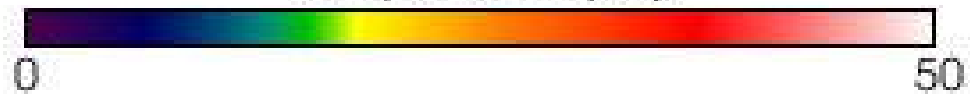


View of the centre of Birmingham, UK, from the air

Future Adapted?



Temperature ($^{\circ}\text{C}$)



Thermal imaging of Atlanta, Georgia, at midday, from NASA

Future Adapted?



Queensland Australia in the floods of winter 2011/12

**Dhaka, Bangladesh
in the monsoons**



Future Adapted?

"Human needs and a healthy environment are not opposing claims that must be balanced; instead, they are inexorably linked by chains of cause and effect"

- *Jared Diamond*

"The first law of sustainability is to align yourself with natural forces"

- *Paul Hawken*

Ecosystem Services



Supporting Soil formation, Photosynthesis, Nutrient cycling

Provisioning Food, Clean water, Shelter, Genetic resources, Biochemicals

Regulating Climate regulation, Water filtration/management, Soil erosion

Cultural Spiritual, aesthetic, religious, artistic

9 Planetary Boundaries

Climate Change

CO₂ concentration and radiative forcing

Biodiversity Loss

Extinction rate

Biogeochemical

Nitrogen out of atmosphere, and phosphorus into oceans

Ocean acidification

Land use

Land surface converted to crop land

Freshwater

Global human consumption

Ozone depletion

Atmospheric aerosols

Particulate concentration

Chemical pollution

Toxic substances, plastics, endocrine disruptors, heavy metals, radioactivity

3 Sustainable Cities?

- Curitiba, Southern Brazil
- Philadelphia, Pennsylvania, US
- London, UK

And some bits and pieces...



Milan's Bosco Verticale

Curitiba – A Convenient Truth

- Capital of Parana State
- Population explosion in 1950s (1.75m)
- Rapidly developing country
- Transportation
- Waste
- Green space
- Affordable housing



Leadership

3 times Mayor, Jaime Lerner

Multidisciplinary team

“I don’t want to work with people who know about the present, I want to work with people who feel the future”

- Jaime Lerner

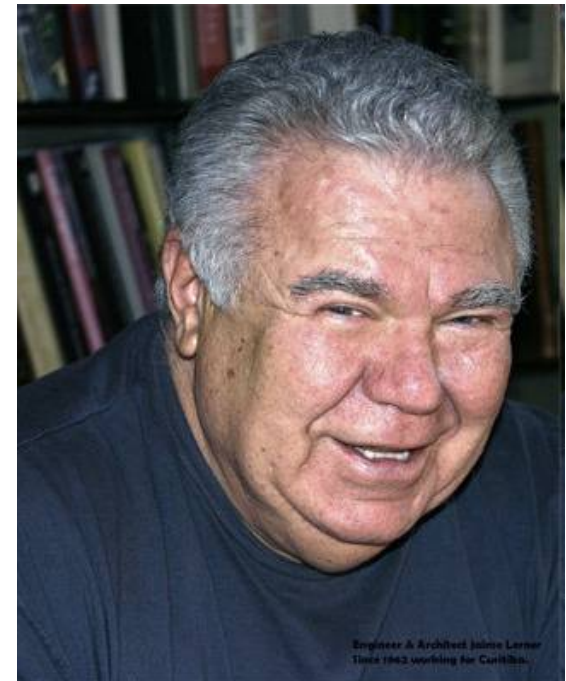
“I can’t understand why people are frightened by new ideas. I’m frightened of the old ones”

- John Cage

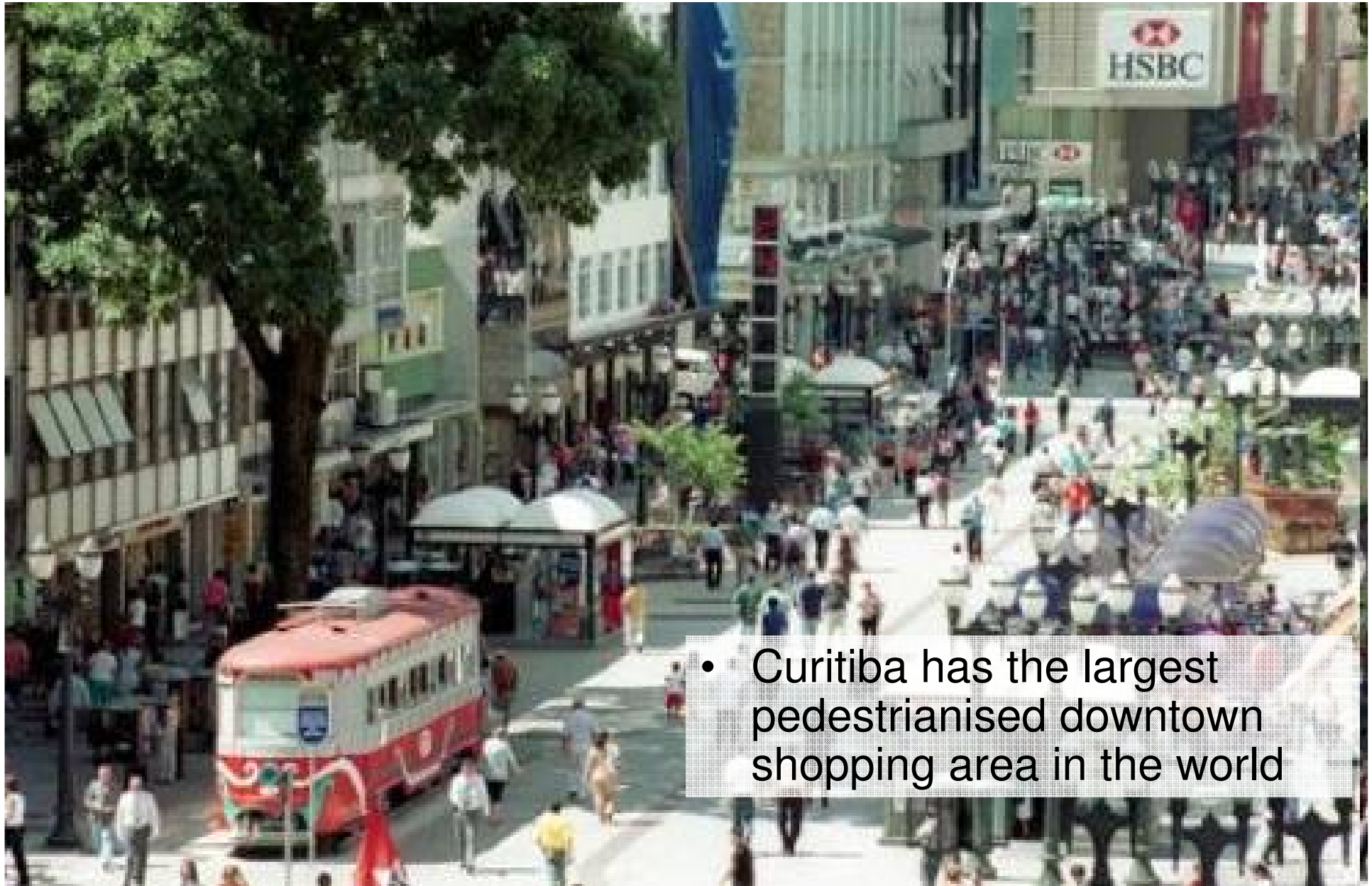
Nicolau Kluppel,
Civil
Engineer



Jaime Lerner,
Architect
and Mayor



Pedestrianise the City Centre



- Curitiba has the largest pedestrianised downtown shopping area in the world

Prioritise Public Transport



- 70% of Curitibaans use public transport, particularly the first Bus Rapid Transit (BRT) system

Green space for walkable streets and public transport were introduced...

While the population trebled in 20 years, car traffic decreased by 30%



City-wide Recycling Programme





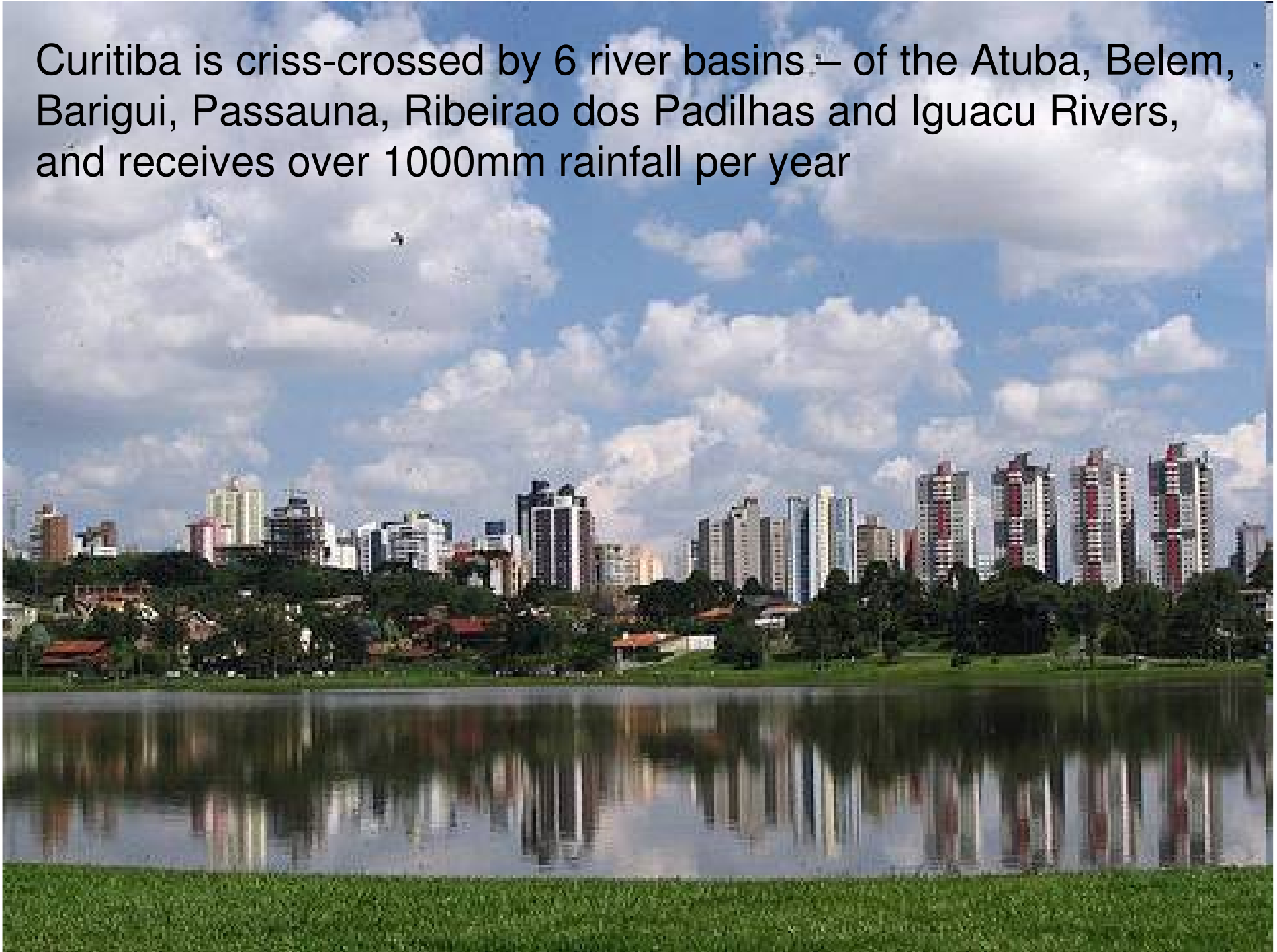
Curitiba has highest recycling rate in the world – 70%

Access to Green Space



Large numbers of parks to **control floods** rather than concrete canals. Sheep cut the grass - cheaper than lawnmowers!

Curitiba is criss-crossed by 6 river basins – of the Atuba, Belem, Barigui, Passauna, Ribeirao dos Padilhas and Iguacu Rivers, and receives over 1000mm rainfall per year



The Opera House in an old mine-turned-city park



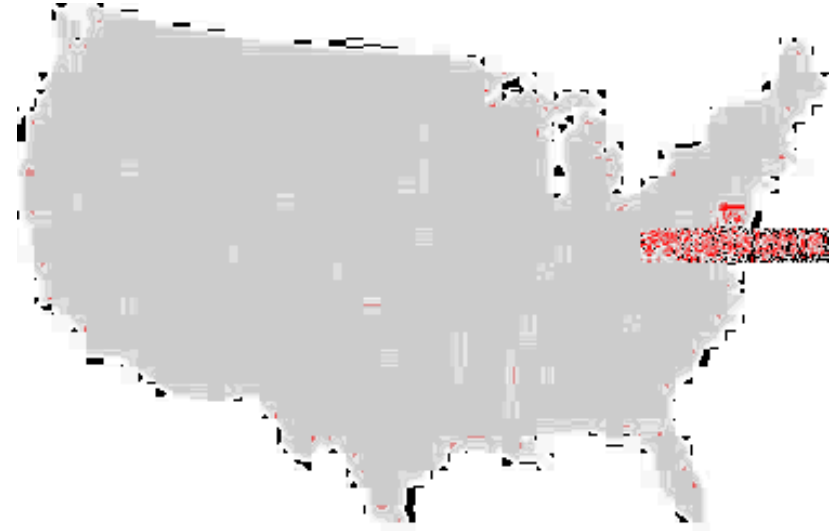
Today...

- 4th largest economy in Brazil
- University of the Environment
- Strong leadership – mayor and multi-disciplinary experts
- Gradual improvement 20 years
- Greater parity across social geographies
- Bus Rapid Transit System – 2.7 million trips per day (1.75 million inhabitants)
- Ave income is 66% greater than Brazilian average
- 70% of Sao Paolo residents want to live in Curitiba!



The Philadelphia Story

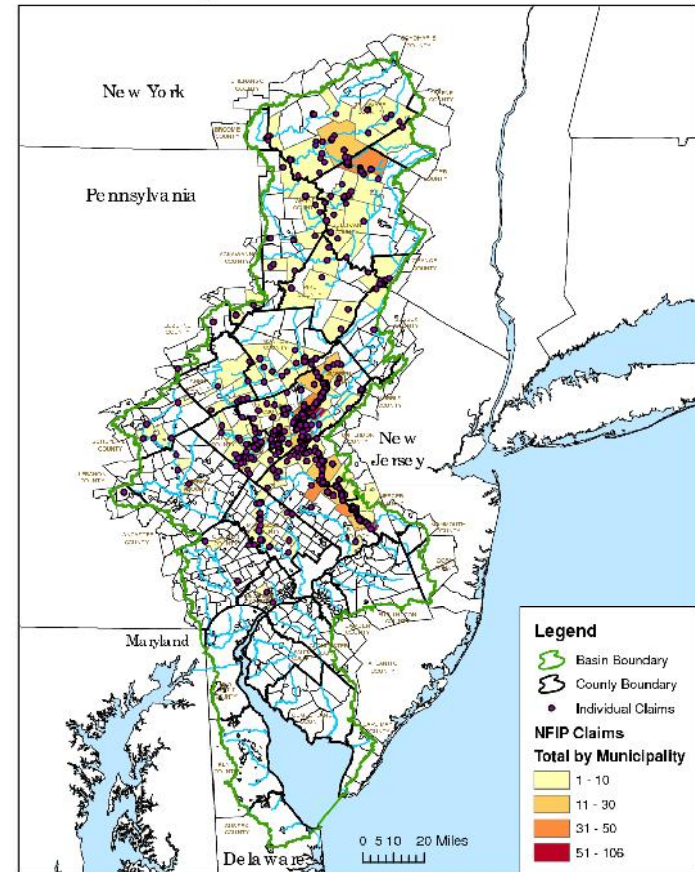
- 1990s - US Federal law to clean up city waters
- Delaware River
- Water Sensitive Urban Design
- Green space
- Walkable streets
- Public Transport
- Reduce pollution
- Jobs and health
- Community activism



Delaware River



**National Flood Insurance Claims in the Delaware River Basin (by Municipality)
September 2004 Event - Ivan**



Source: Federal Emergency Management Agency (FEMA). Claims represented include all National Flood Insurance Program (NFIP) closed claims as of 02/28/07 for dates of loss listed 9/17/04 - 9/20/04.

Prepared by Delaware River Basin Commission Staff, April 2007.

“Climate Bill Can Help Make Cities Greener”

Philadelphia Mayor Michael Nutter

“Over the past five decades, Philadelphia lost jobs and residents.

Government policies valued highways over transit and new tract housing over older row homes

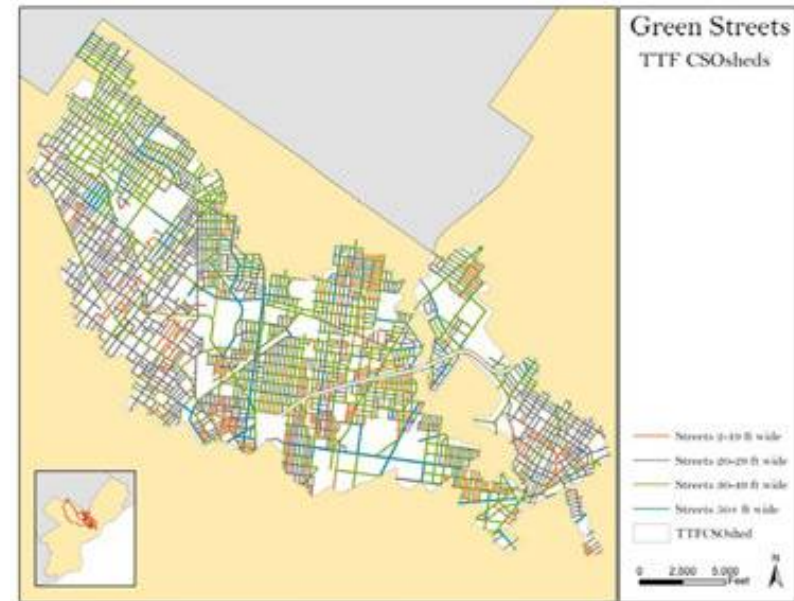
Philadelphia has begun to witness a rebirth... people and jobs are moving back in

Walkable neighbourhoods and public transportation systems are assets to value and nurture”



Green Streets, Clean Waters Program

- Philadelphia's Green Streets Plan:
 - Proposed “green corridors”
 - Local water pollution control
 - Flooding control
 - Reducing local over heating
 - Improving amenity
 - Supporting biodiversity
 - Healthier, more resilient neighbourhoods





WRT's visualisations for prototypical streets – the issue is not the 1 in 100 year storm event but the first inch that falls...



Green infrastructure also implemented to curb pollution...

And the triple bottom line...



Healthy walkable neighbourhoods encourage investment

The power of communities

- Greening streets at a block scale, not just masterplanning

“Soak it Up” event on 16th & Jackson Streets

Jessica Brooks and Dan Meier, Community organisers



www.phillywatersheds.org





Portland

Portland Rain Garden

Photo: Dusty Gedge







Mount Tabor School Portland



Tokyo Days

- Tokyo subway most highly used rapid transport system in the world
- 3.161 Bn rides/year (London is 11th with 1.107 Bn rides)
- But Tokyo also has...
- Air and water pollution....
- Over heating....
- Health alerts...





Tokyo Green Roof Policy

Tokyo city farmers' roof top potato farm



London Adapts

- Urban Heat Island
- Air and water pollution
- Economic threats

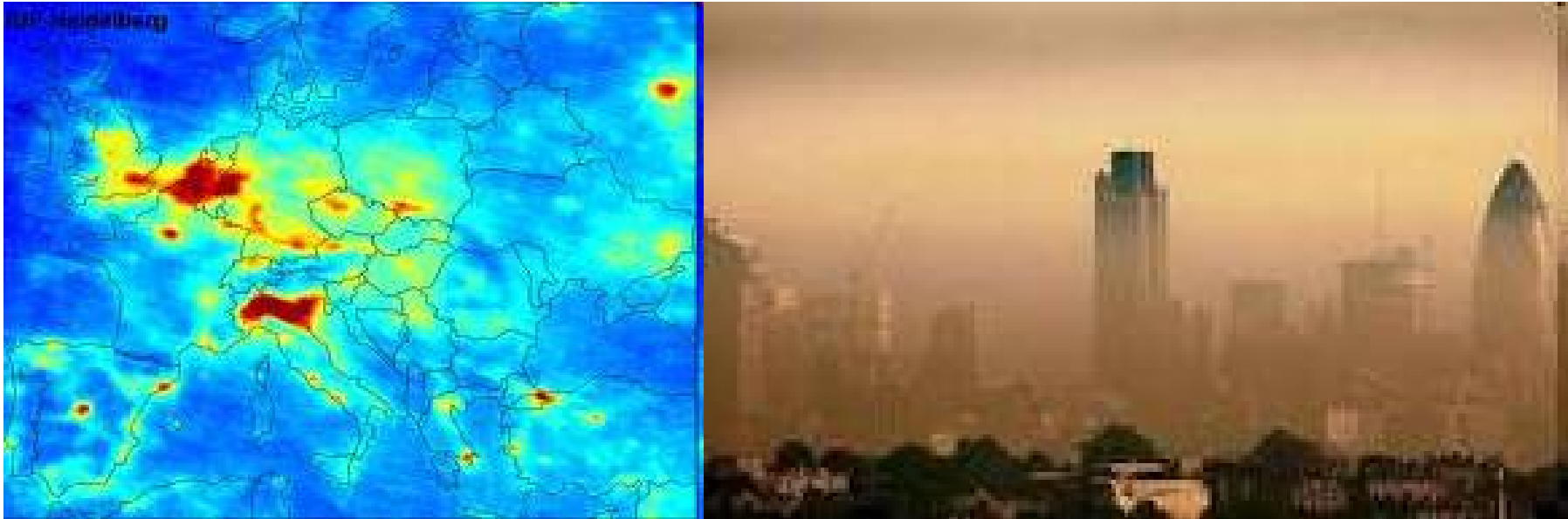
- Mayor's London Plan
- Green Roof Toolkit
- CAZ and BIDs
- Part funding from EU, GLA, Drain London, Environment Agency



Roof of Barclays Tower, Canary Wharf – at the time the highest green roof in Europe

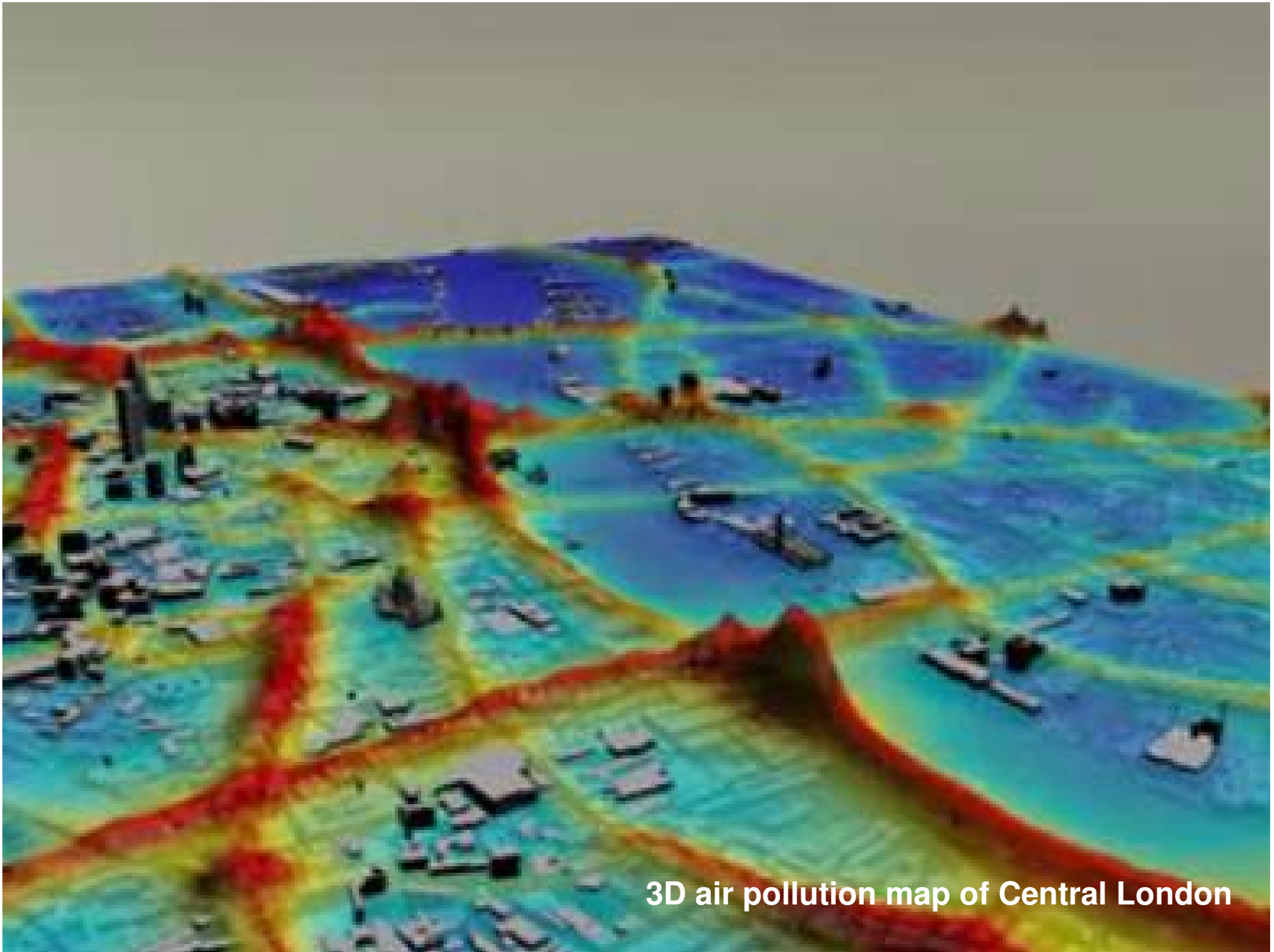
Air Quality

- In 1999, more people died from air pollution than road traffic accidents



The Great Smog: “Air pollution causes 4,000+ early deaths in London each year”

Institute of Occupational Medicine, 2007



3D air pollution map of Central London

London Green Roof Policy 2006



Green roofs in Greenwich

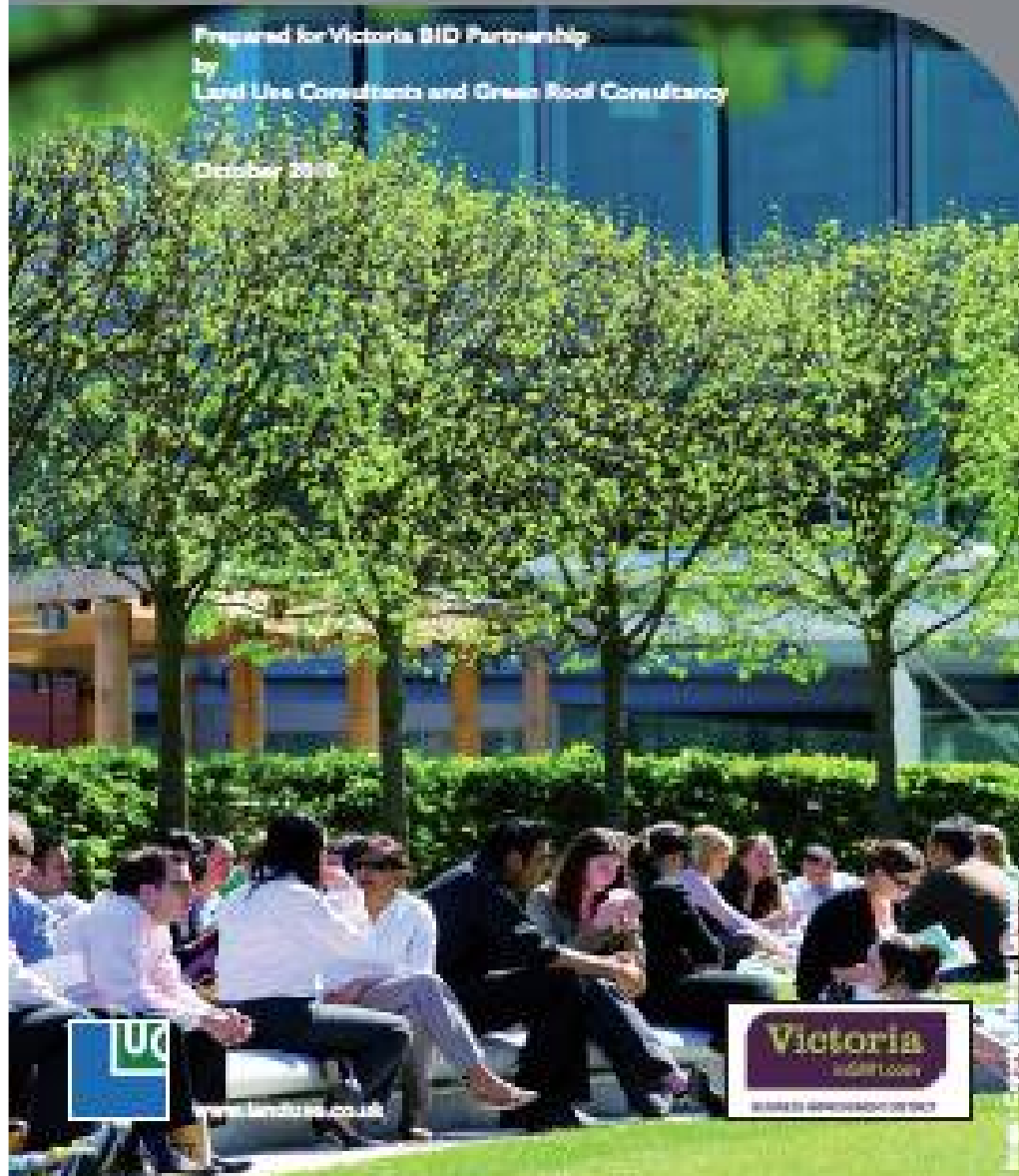


The roof of Laban Dance Centre, Greenwich

A Green Infrastructure Audit of the Victoria Business Improvement District

Prepared for Victoria BID Partnership
by
Lund Usa Consultants and Green Roof Consultancy

October 2010



VBID

Green Infrastructure Audit
2010

2.5 hectares green roofs

1.5 hectares other green
infrastructure

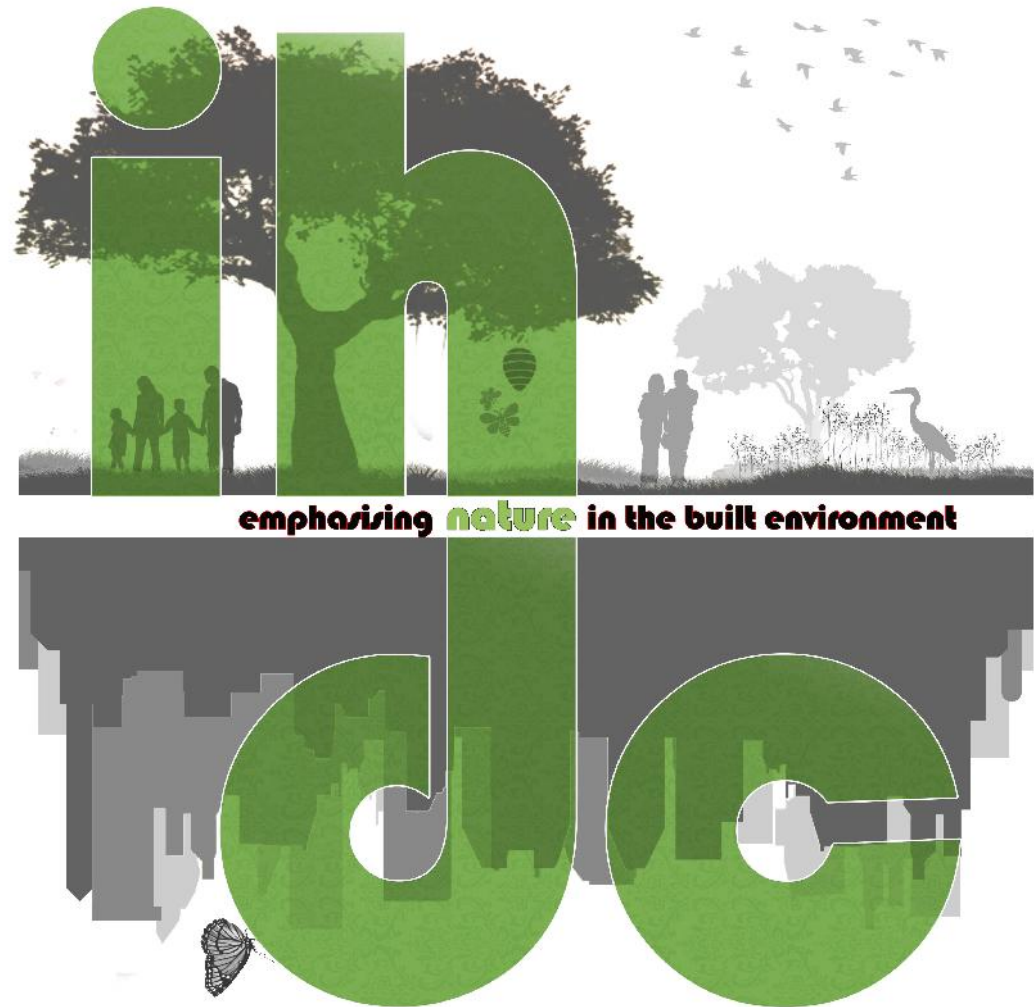
Existing green
infrastructure improved

Integrated Habitats Design Competition 2012

In association with

The Natural History Museum

The Green Infrastructure
Partnership

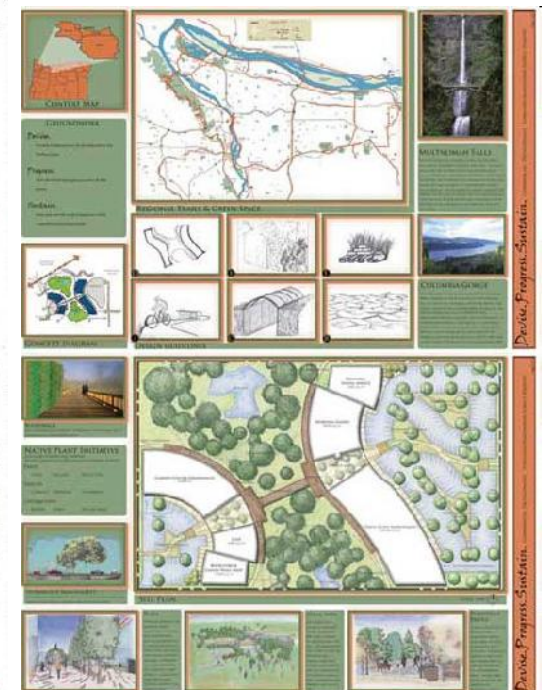
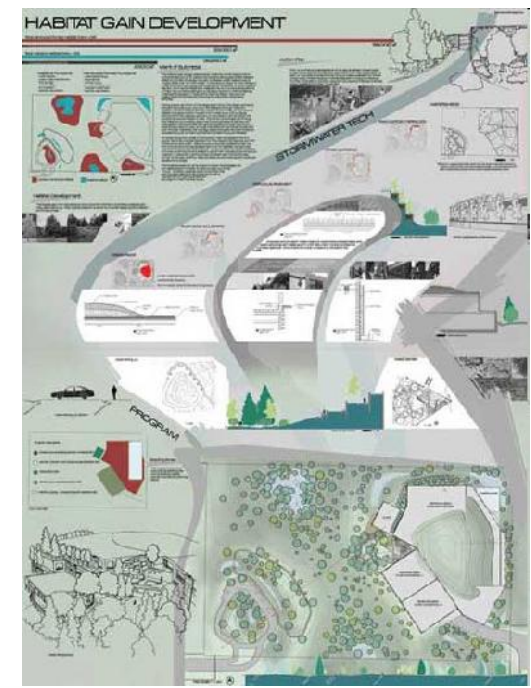


emphasising **nature** in the built environment

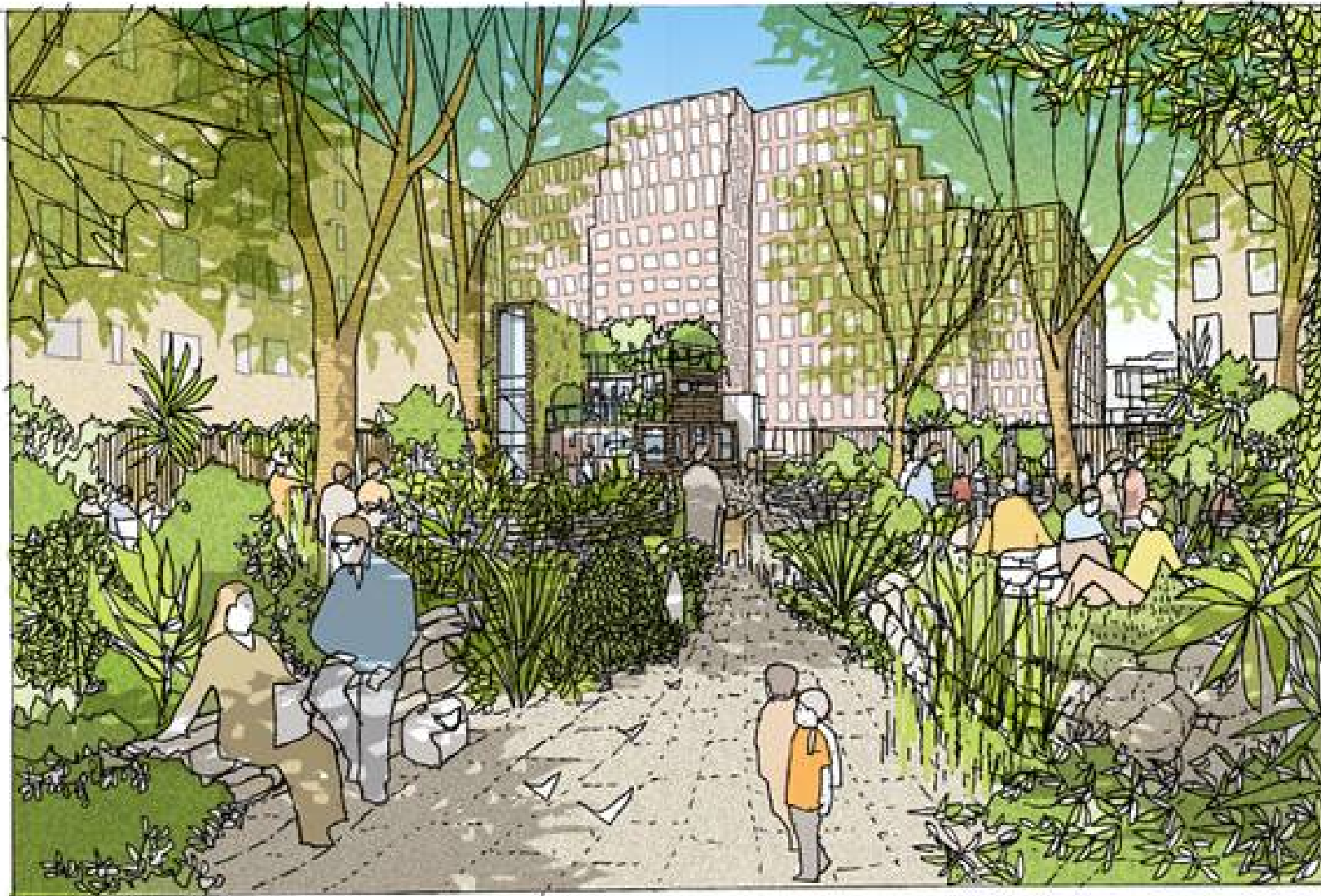
Emphasising nature in the
built environment

IHDC Origins

- Metro Portland, 2007
- www.integratinghabitats.org
- Visionary, innovative designs
- Transdisciplinary approach
- A body of exemplar projects as a reference



Visions of adapted cities



Aims of the IHDC

Prioritising biodiversity,
the foundation of all life

Stimulate holistic designs
that give full consideration
to biodiversity, habitats,
the water cycle and the
wider environment, as well
as addressing human
needs and comforts



John Little's Integrated Habitats

INTEGRATED HABITATS - THE SEED CATALOGUE

OPEN TOURS



The Seed Catalogue In Action: the catalogue applied to Hull, where there is a lively regenerated area in the city centre, but a large number of degraded open spaces in the rest of the city. The first step is an open space audit, which indicates ownership, size and condition of a city's open spaces. We've kept it simple here, distinguishing only between sites under and over 0.5 hectares that are brown/paved ('industrial'), or beginning to be reclaimed by nature ('non-industrial').

Criteria

Any site

Any use

Prioritise habitats for biodiversity

Refer to local, regional and national Biodiversity Action Plans

Combine excellence in biodiversity with good water and energy management and performance, amenity and connectivity

Interdisciplinary teams encouraged

Team R_E_D's masterplanning tool
IHDC 2010

IHDC 2012 Awards

Category 1 | Best Implemented Design +3 years

1st Prize - £1,000

2nd Prize - £750

3rd Prize - £500

Category 2 | Best Creative Design

1st Prize - £1,000

2nd Prize - £750

3rd Prize - £500

Category 3 | NHM International Award Discretionary

Transport for London Roof, St James, Victoria

Green Roof Consultancy

IHDC 2012 Gold Sponsor



The Green Infrastructure Partnership

Supported by Defra & DCLG

www.defra.gov.uk/environment/natural/green-infrastructure

IHDC 2012 Host Partner



15th October
IHDC 2012 Conference
& Awards Ceremony
2 week Public Exhibition



IHDC 2012 Judging Partners

Chair of IHDC Judges

Gary Grant, ecologist and masterplanner

Dusty Gedge - livingroofs.org

Brian McDonald - Natural England

Paul Shaffer - CIRIA

Jean Venables - ICE Past President

John Day - RSPB

Peter Massini – Greater London Authority

Lisa Hundt - Bat Conservation Trust

Martin Hunt - Forum for the Future

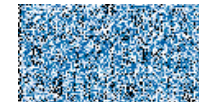
Justin Bere - Bere Architects

Andy Simmonds - Simmonds Mills

Alice Tree - SEPA

Phil Baarda - Scottish Natural Heritage

Paul Collins – Nottingham Trent University



IHDC 2012

Key dates

Entry period:

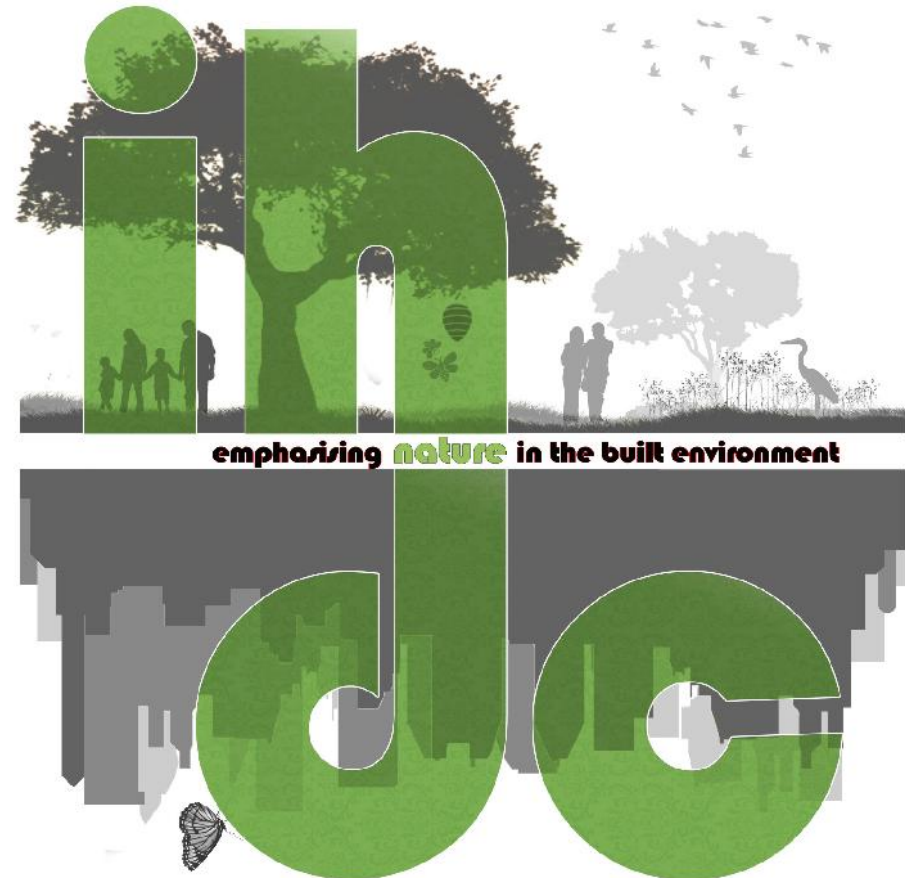
20th March – 31st July 2012

Judging: 17th September 2012

IHDC 2012 Awards Ceremony &
Exhibition: 15th October 2012,
Natural History Museum

www.IHDC.org.uk

IHDC@reset-development.org



If we are to adapt...



Change our development priorities

Change our education system

Work across traditional boundaries and silos

Practical and theoretical learning

Mutual exchange

Unusual partnerships...



“This is serious. We need to grow up and stop treating the environment like we’re choosing wallpaper.”

- Gary Grant

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