

# FUTURE ADAPTED CITIES...?

**Blanche Cameron**  
**RESET Development**  
Director & Trustee  
[www.reset-development.org](http://www.reset-development.org)

Photo: Transport for London's Headquarters

55 Broadway, London

Green Roof Consultancy

[www.greenroofconsultancy.co.uk](http://www.greenroofconsultancy.co.uk)

**Graduate School of the Environment**  
Centre for Alternative Technology  
Senior Lecturer, MSc Architecture: AEES  
[www.gse.cat.org.uk](http://www.gse.cat.org.uk)



Centre for Alternative Technology  
Canolfan y Dechnoleg Amgen



**Centre for Alternative Technology**

**Changing our development priorities**

**Changing our education system**

**Working across traditional boundaries and silos**

**Practical and theoretical learning**

**Mutual exchange**

**Long conversation**

Photo: Welsh Institute of Sustainable Education

Centre for Alternative Technology

Blanche Cameron [www.gse.cat.org.uk](http://www.gse.cat.org.uk)



Centre for Alternative Technology  
Canolfan y Dechnoleg Amgen







Photos:  
Magnus Wolfe Murray, RESET evening at BDP Architects  
Graduate School of the Environment, Centre for Alternative  
Technology, MSc Architecture: workshop  
Source: Blanche Cameron

"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 nature"

- *Gary Grant*



Centre for Alternative Technology  
Canolfan y Dechnoleg Amgen





# Future Adapted Cities

- RESET
- Resilient communities
- Cause and effect – our ecosystem
- Global impacts - Bangladesh
- Action UK – policy and case studies
- RESETing training
- Integrated Habitats Design Competition
- A Future of the World in 100 Objects

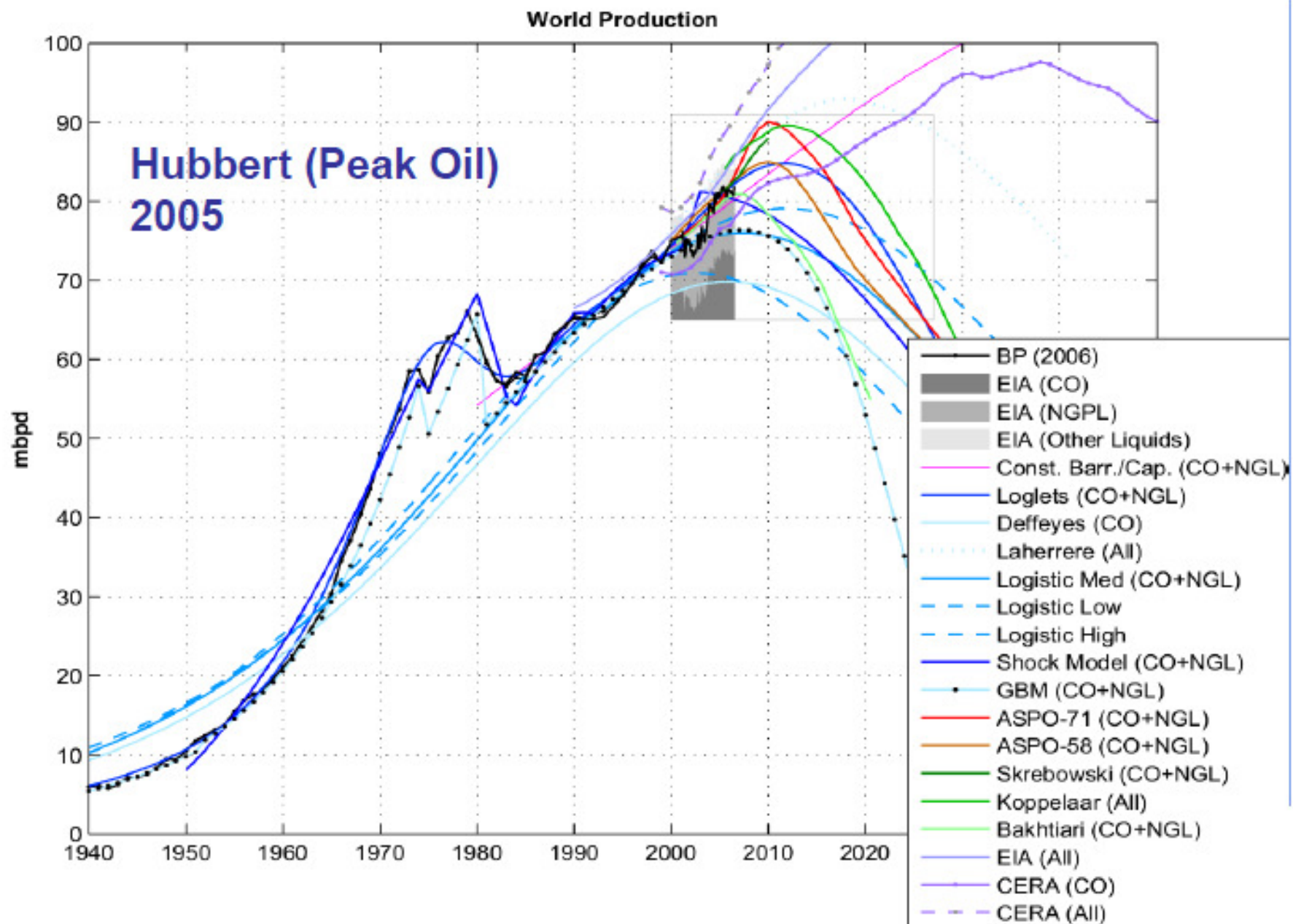


Centre for Alternative Technology  
Canolfan y Dechnoleg Amgen





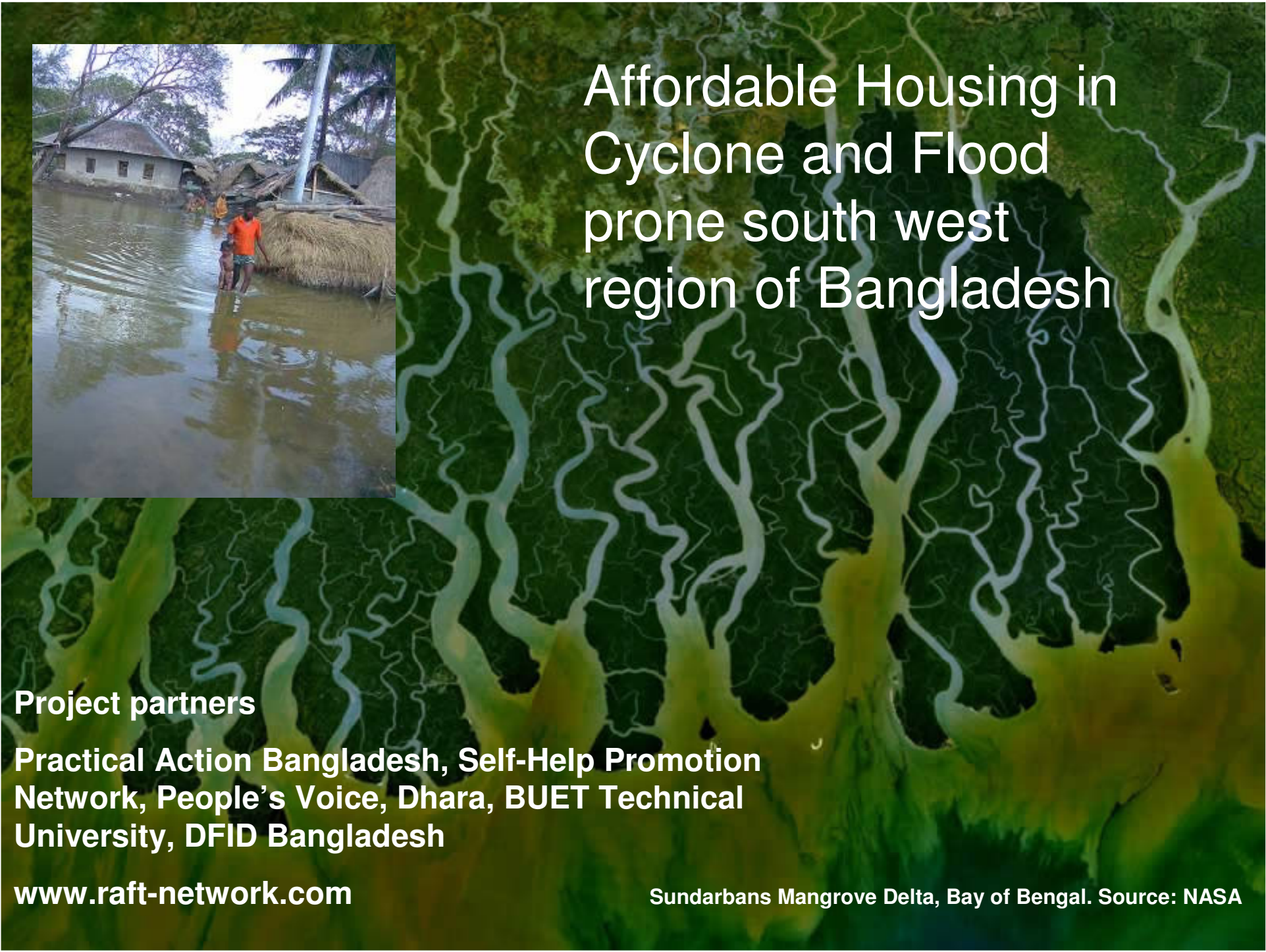




# Gabora, Satkira, Bangladesh 2009, after Cyclone Aila







# Affordable Housing in Cyclone and Flood prone south west region of Bangladesh



## Project partners

**Practical Action Bangladesh, Self-Help Promotion  
Network, People's Voice, Dhara, BUET Technical  
University, DFID Bangladesh**

**[www.raft-network.com](http://www.raft-network.com)**

**Sundarbans Mangrove Delta, Bay of Bengal. Source: NASA**

# ECOSYSTEMS SERVICES - UN MILLENNIUM ASSESSMENT



## 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

Image: UN Millennium Ecosystem Assessment  
 Source: RESET Development  
[www.reset-development.org](http://www.reset-development.org)



# Resilient communities?



Tuvalu floods  
Source: Gary Braasch, 2005



UK floods  
Source: BBC [www.bbc.co.uk](http://www.bbc.co.uk)



Clapton Park Estate Source: John Little  
[www.grassroofcompany.co.uk](http://www.grassroofcompany.co.uk)

# Problems with cities

- Dry
- Hot
- Impervious
- Polluted
- Loss of habitats and biodiversity
- Urban Heat Island
- Flash floods
- Poor air quality
- Poor health benefits
- Poor amenity
- Poor biodiversity





# Integrating ecosystem services in cities

Ecosystem services are the benefits we get from green infrastructure

- Water
- Energy
- Biodiversity



Clapton Park Estate Source: John Little  
[www.grassroofcompany.co.uk](http://www.grassroofcompany.co.uk)

# Cities of the Future: Water

Water Sensitive Urban Design:

Working with the water cycle through:

Rain gardens, green roofs and walls

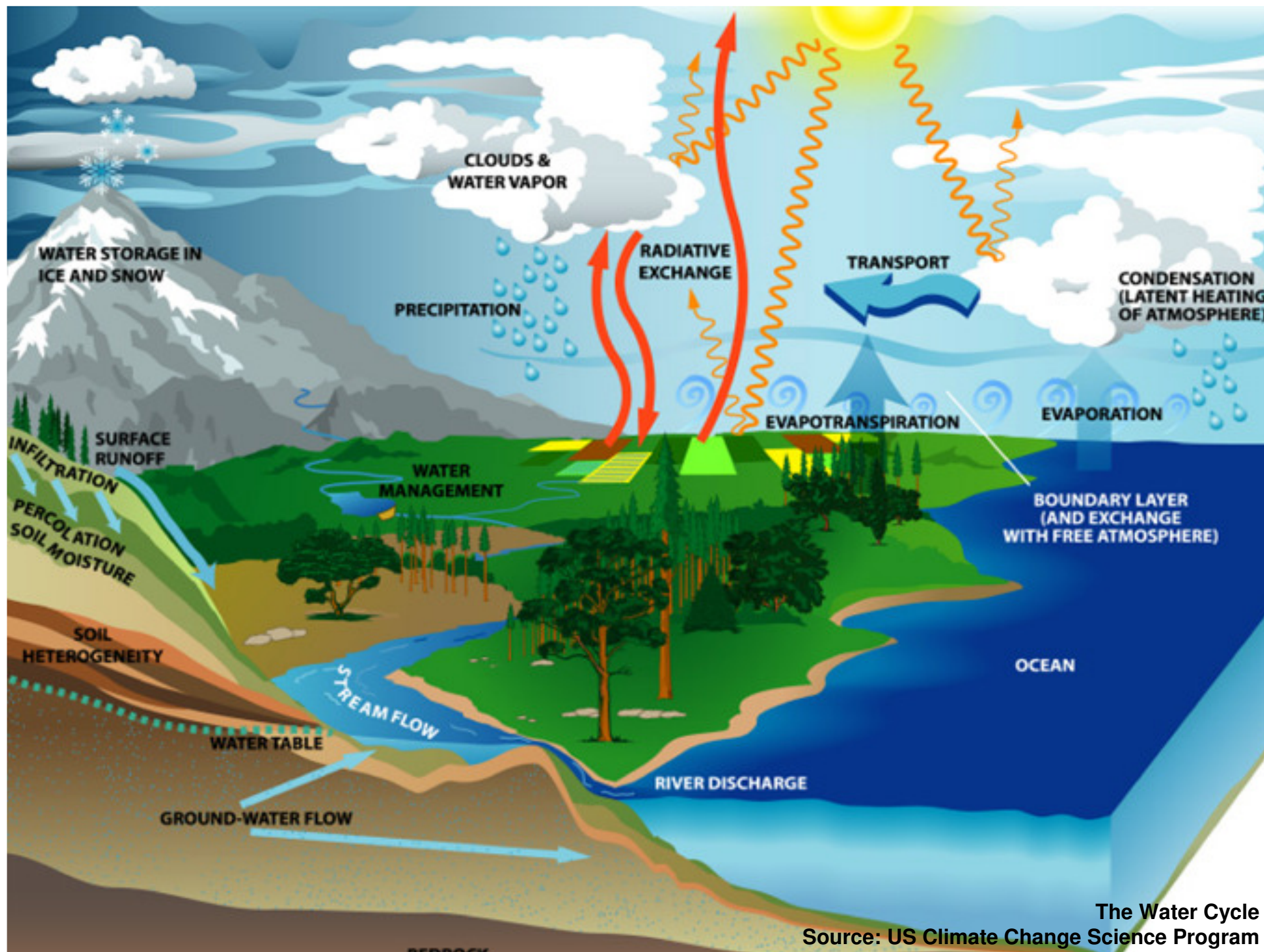
- Natural cooling - Evapotranspiration
- Natural ventilation
- Air quality
- Flash flood control
- Exs: Portland, New York, Potsdamer Platz



Centre for Alternative Technology  
Canolfan y Dechnoleg Amgen





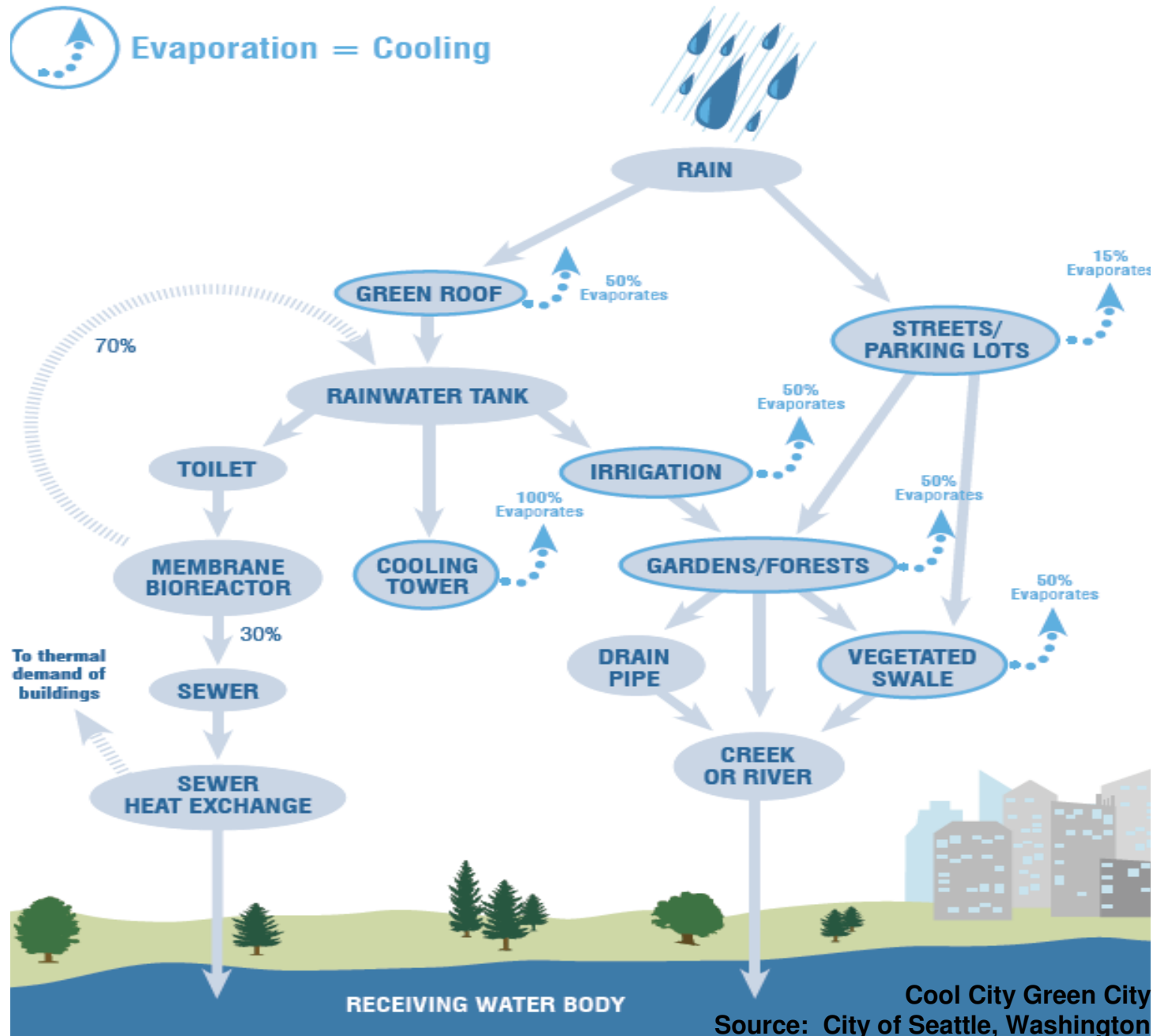


The Water Cycle  
Source: US Climate Change Science Program

# COOL CITY/GREEN CITY



Evaporation = Cooling



Cool City Green City  
Source: City of Seattle, Washington





# WSUDS

## Water Sensitive Urban Design



Source: [www.watersensitivecities.org.au](http://www.watersensitivecities.org.au)



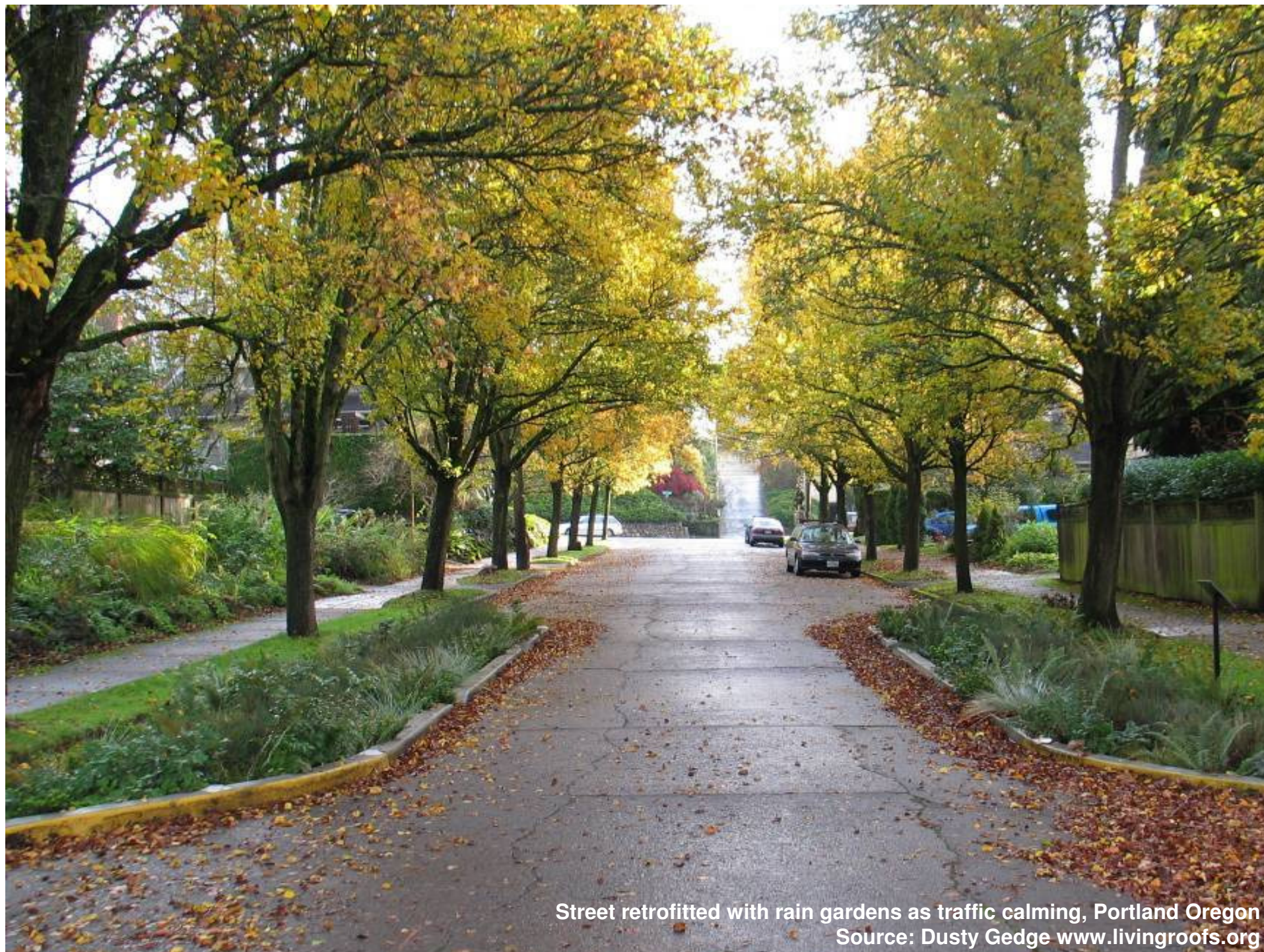
Centre for Alternative Technology  
Canolfan y Dechnoleg Amgen





Portland Oregon  
Source: Dusty Gedge [www.livingroofs.org](http://www.livingroofs.org)





Street retrofitted with rain gardens as traffic calming, Portland Oregon  
Source: Dusty Gedge [www.livingroofs.org](http://www.livingroofs.org)





Street retrofitted with rain gardens, Portland Oregon  
Source: Dusty Gedge [www.livingroofs.org](http://www.livingroofs.org)





Mount Tabor Middle School, Portland, Oregon  
Source: Kevin Robert Perry



**Car park with rain gardens, Clayton**  
**Source: Australian Institute of**  
**Landscape Architects (AILA)**







# Potsdamer Platz

Master plan set out  
by Renzo Piano

City of Berlin: Zero  
discharge site





Potsdamer Platz rain water retention lakes  
Source: Muench Group



Centre for Alternative Technology  
Canolfan y Dechnoleg Amgen





# VBID

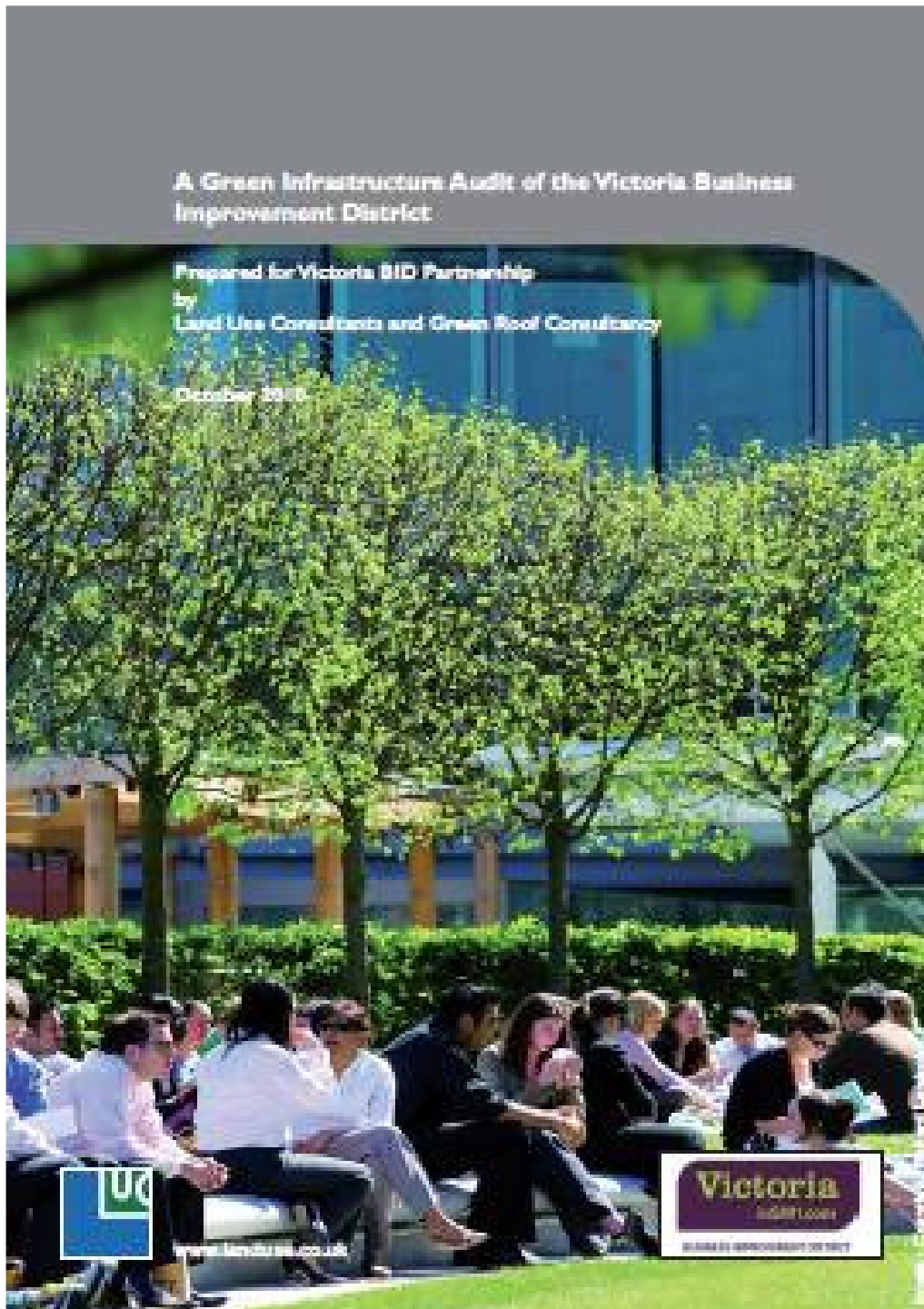
## Green Infrastructure Audit 2010

2.5 hectares green roofs

1.5 hectares other green  
infrastructure

Existing green  
infrastructure improved

Green Infrastructure Audit of the Victoria  
Business Improvement District  
Victoria BID 2010



# Cities of the Future: Energy

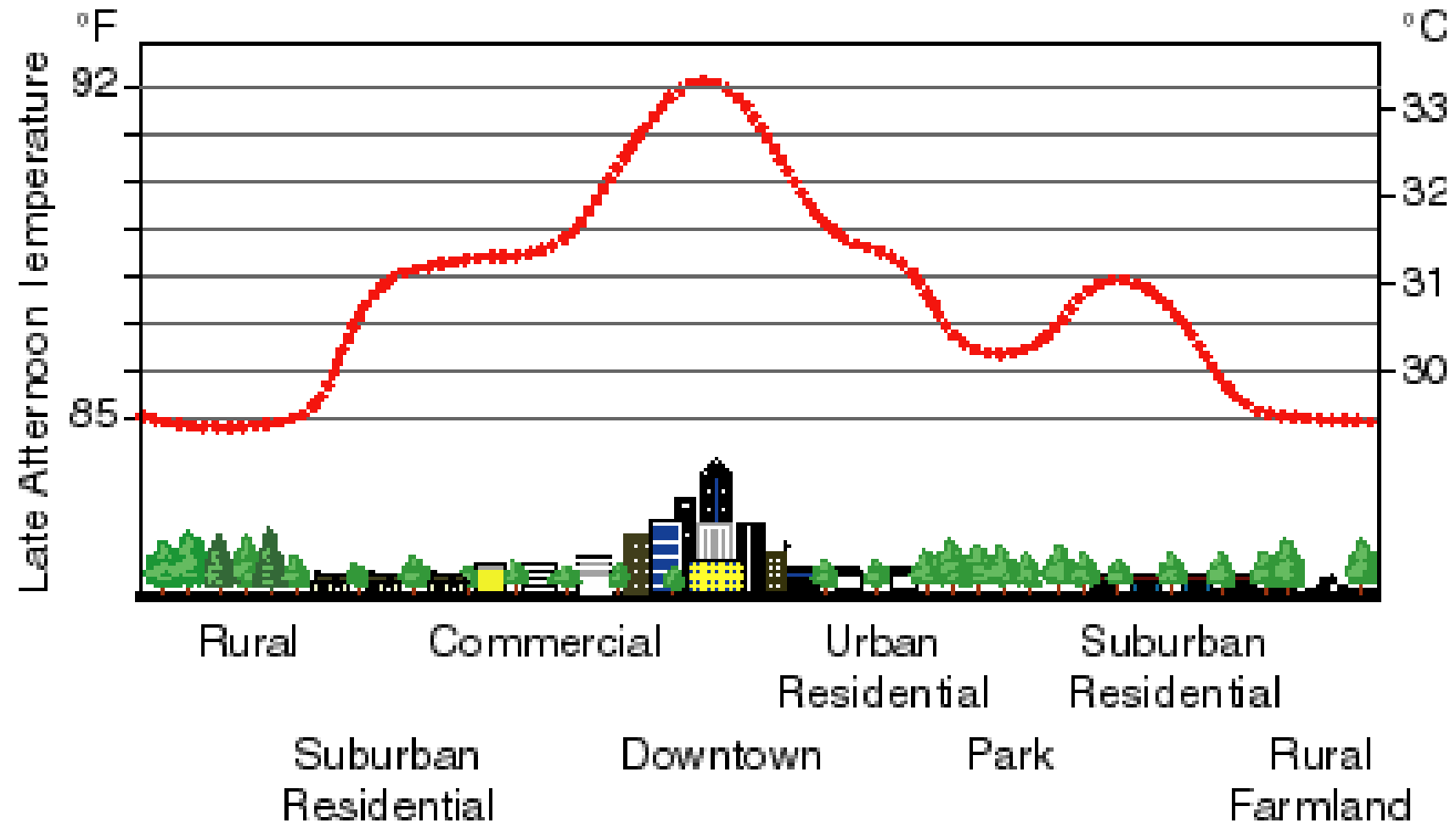
- 
- 
- 



Atlanta Urban Heat Profile  
Source: NASA Earth Observatory



## Sketch of an Urban Heat-Island Profile



Sketch of an Urban Heat Profile  
Source: US EPA



Centre for Alternative Technology  
Canolfan y Dechnoleg Amgen



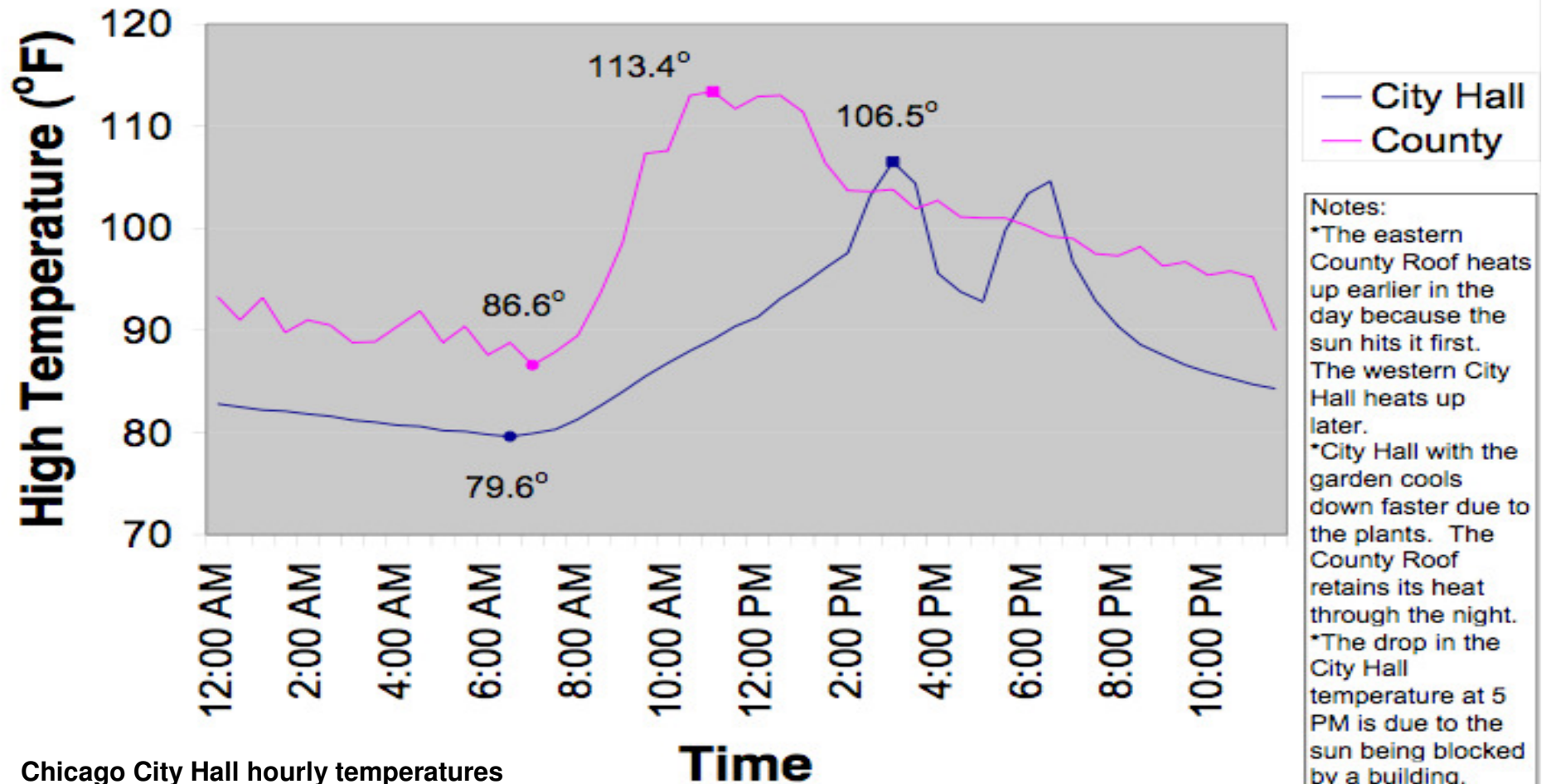
# Chicago City Hall





# Chicago City Hall

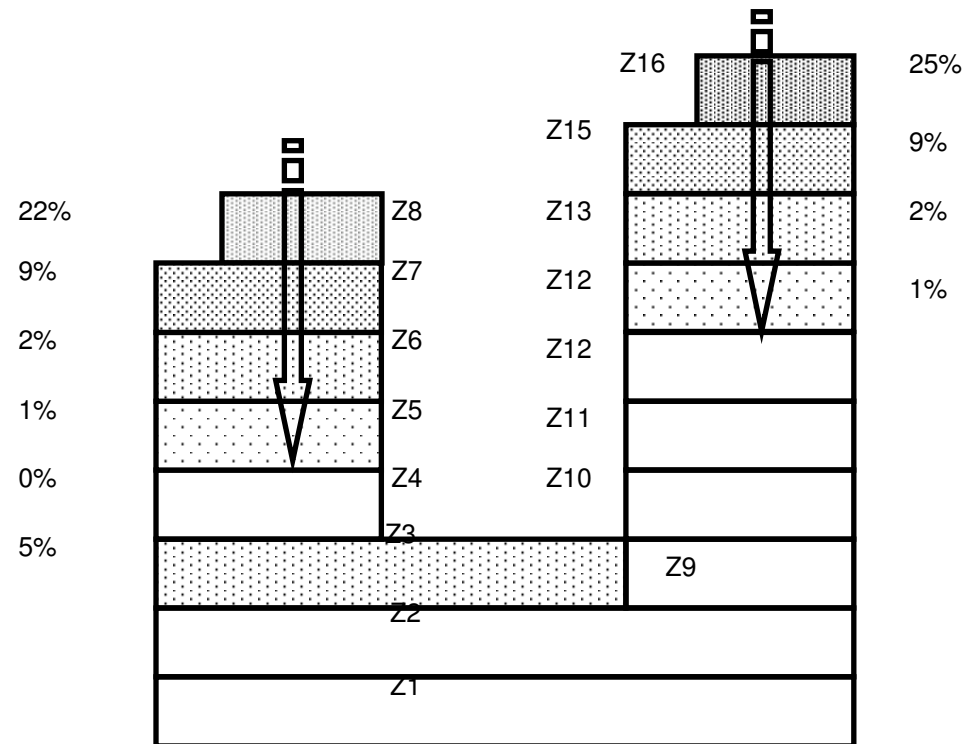
## 08/08/01 Hourly Temperatures



Chicago City Hall hourly temperatures  
Source: Dr Marco Schmidt

# Summer Reductions with Green Roof

## 4.15Kwh/msq/yr



Winter Reductions with Green Roof  
Between 2 - 6 Kwh/msq/yr

Energy reductions with Green Roof  
Source: Dr Marco Schmidt



Centre for Alternative Technology  
Canolfan y Dechnoleg Amgen





# Policies

- DEFRA 2007
- New London Plan
- Environment Agency Adaptation Toolkit
- Greater Manchester Green Roof Guidance
- Flood & Water Act 2010
- L Regs: based on average temperatures 20 years ago.....



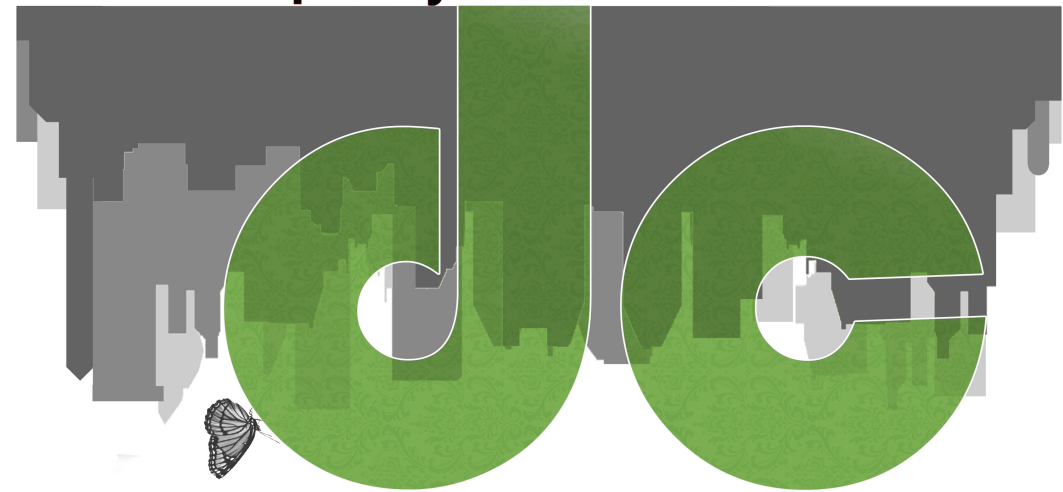
Centre for Alternative Technology  
Canolfan y Dechnoleg Amgen



# Integrated Habitats Design Competition 2011



emphasising **nature** in the built environment



[www.ihdc.org.uk](http://www.ihdc.org.uk)



bere:architects



SimmondsMills





# Aims

Prioritising biodiversity, the foundation of all life

Based on a similar competition run by City of Portland, Oregon in 2007

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

# Criteria

Any UK site

Any use

Prioritise habitats for biodiversity

Refer to local, regional and national

Biodiversity Action Plans

Biodiversity, Water, Energy

Interdisciplinary teams encouraged

# Prizes

1st Prize - £2,000

2nd Prize - £1,000

3rd Prize - £750



# IHDC 2011

## Key dates

Entry period:  
1st May – 31st July 2011

Judging: September 2011

Awards Ceremony &  
Exhibition: October 2011

## Judging



Gary Grant - Green Roof Consultancy (Chair)

Dusty Gedge - livingroofs.org

Brian McDonald - Natural England

Paul Shaffer - CIRIA

Jean Venables - ICE Past President

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

[www.ihdc.org.uk](http://www.ihdc.org.uk)





# RESET Training

- Ecosystem Services
  - Green Infrastructure
  - Integrated Habitats
  - Water Management
  - Energy Management
  - Design & Materials
  - Practical Construction
- 
- Estates Management

Clapton Park Estate Source: John Little  
[www.grassroofcompany.co.uk](http://www.grassroofcompany.co.uk)



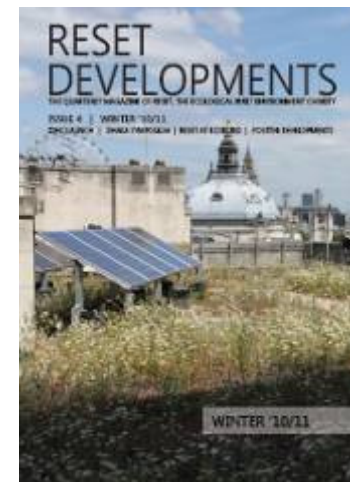


RESET rammed earth training at UEL  
Source: RESET Development  
[www.reset-development.org](http://www.reset-development.org)

# RESET

[www.reset-development.org](http://www.reset-development.org)

- Training, advocacy and research
- Access to expertise
- Reduced course fees
- Voting rights
- Network
- Internships







“a system of conservation based solely on economic self-interest is hopelessly lopsided. It tends to ignore, and thus eventually eliminate, many elements in the land community that lack commercial value, but that are essential to its healthy functioning.”

- Aldo Leopold, 2001

Allotments, Clapton Park Estate  
Source: John Little  
[www.grassroofcompany.co.uk](http://www.grassroofcompany.co.uk)