World Forum on Natural Capital

EDINBURGH: 2017



C2:Quick-fire case studies

Transforming the built environment



Chaired by:

James Spurgeon

Director & Environmental Economist, Sustain Value







Speakers:

Maja Johannessen, Government & Cities Programme Associate, Ellen MacArthur Foundation

Bianca Nijhof, Global Sustainability Program Manager, Arcadis

Jane Baptist, Deputy Head of Sustainability, The Crown Estate







Maja Johannessen

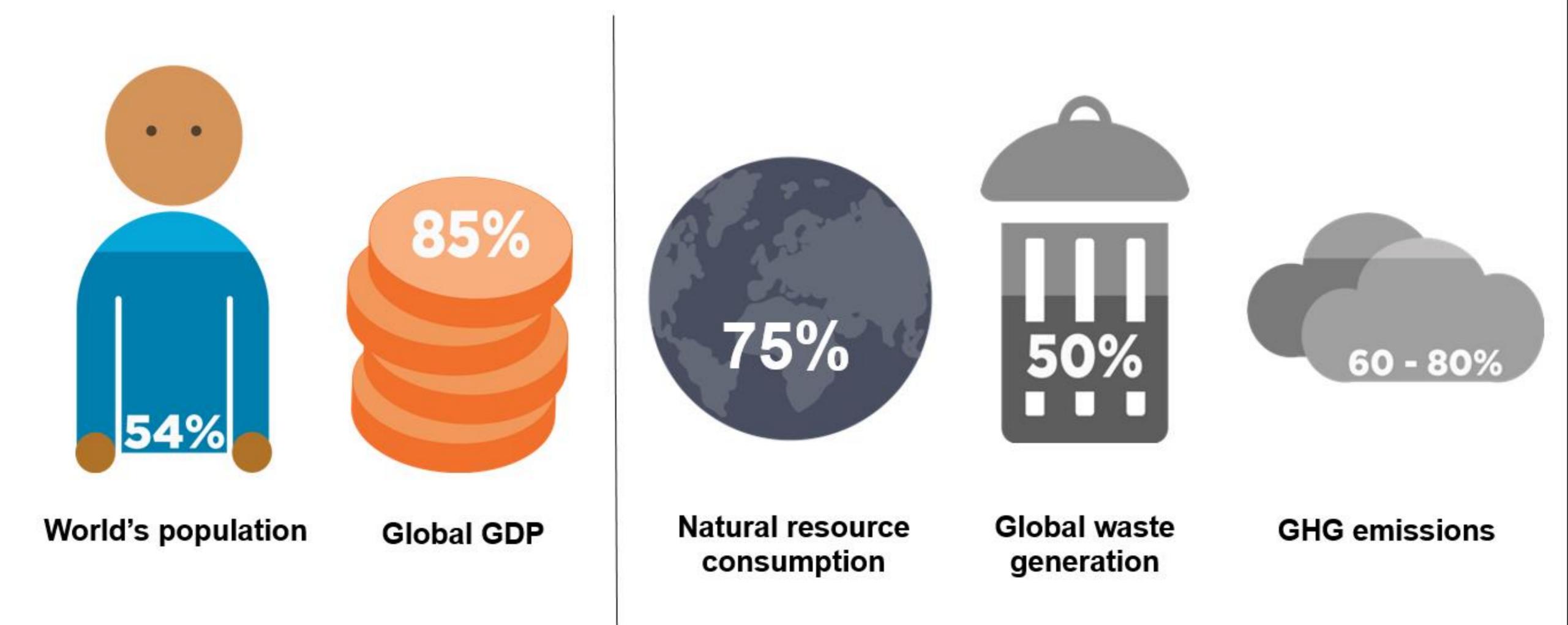
Government & Cities Programme Associate, Ellen MacArthur Foundation





CITIES: A UNIQUE CONTEXT





STRUCTURAL WASTE IN THE BUILT ENVIRONMENT



CONSTRUCTION



- 10-15% of building material wasted during construction
- O-0.5% productivity increase per year in most European countries 1990-2015, whereas 2% per year achieved in some countries

UTILISATION



- 60% of European offices are not used even in working hours
- 50% of residential dwellers report living in too much space

USAGE



- 20-40% of energy in existing buildings can be profitably conserved
- Passive building standards at or near profitability for most new-build segments, but still only constitute a minority of buildings

END OF LIFE



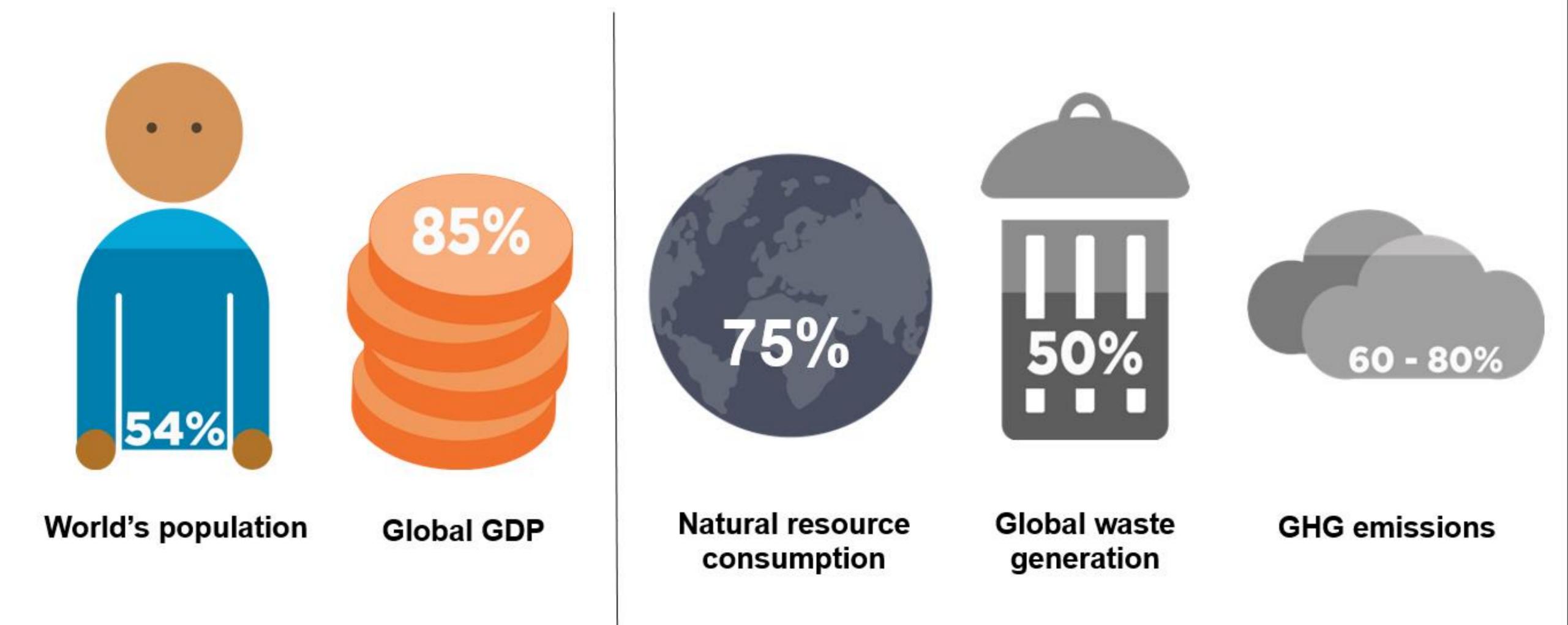
- 54% of demolition materials landfilled, while some countries only landfill 6%
- Most materials unsuitable for reuse as they contain toxic elements

URBAN PLANNING

- 50% of most city land dedicated to infrastructure
- 11 million households experience severe housing deprivation
- Congestion cost 2% of GDP in many cities

CITIES: A UNIQUE CONTEXT





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Bianca Nijhof

Global Sustainability Program Manager, Arcadis



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WEF Global Risk Report 2017 -



likelihood



2016

Large-scale involuntary migration

Extreme weather events

Failure of climatechange mitigation and adaptation

Interstate conflict with regional consequences

Major natural catastrophes

2017

Extreme weather events

Large-scale involuntary migration

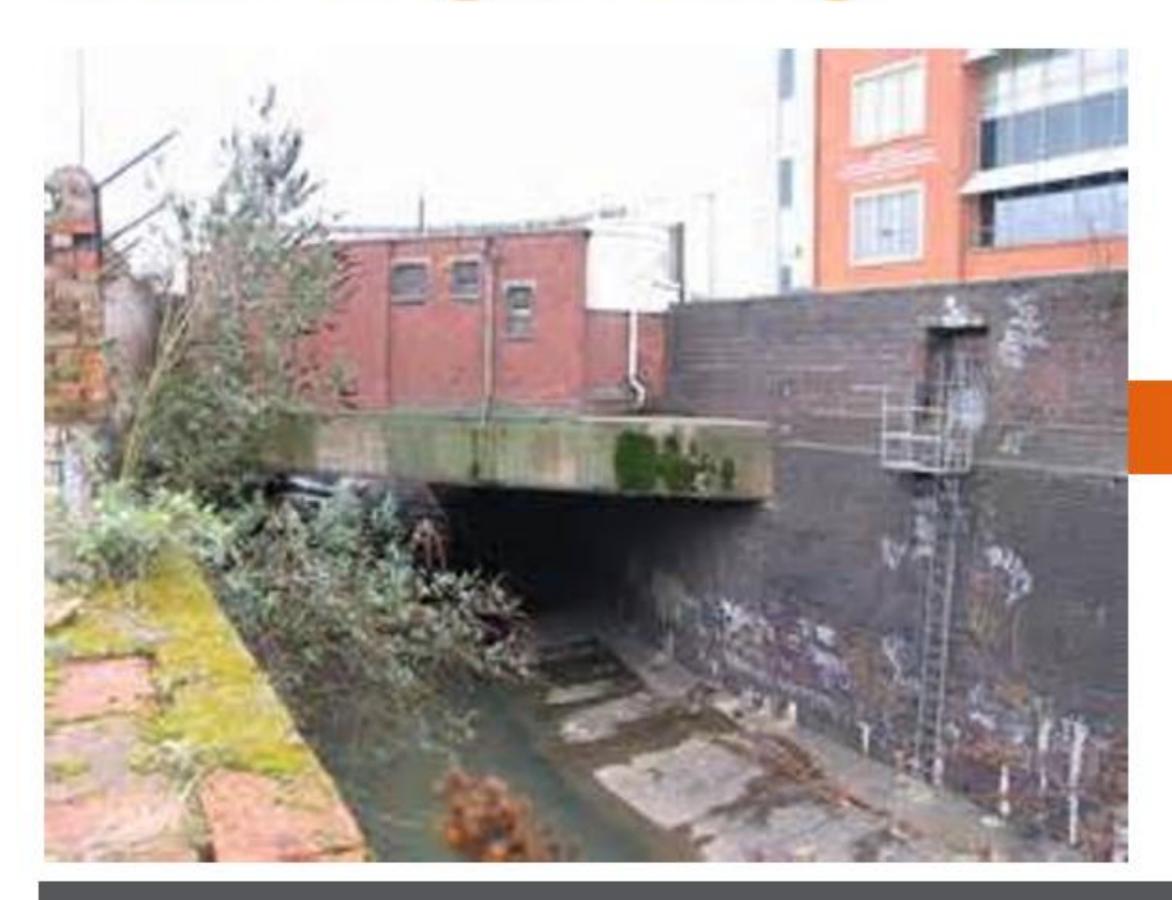
Major natural disasters

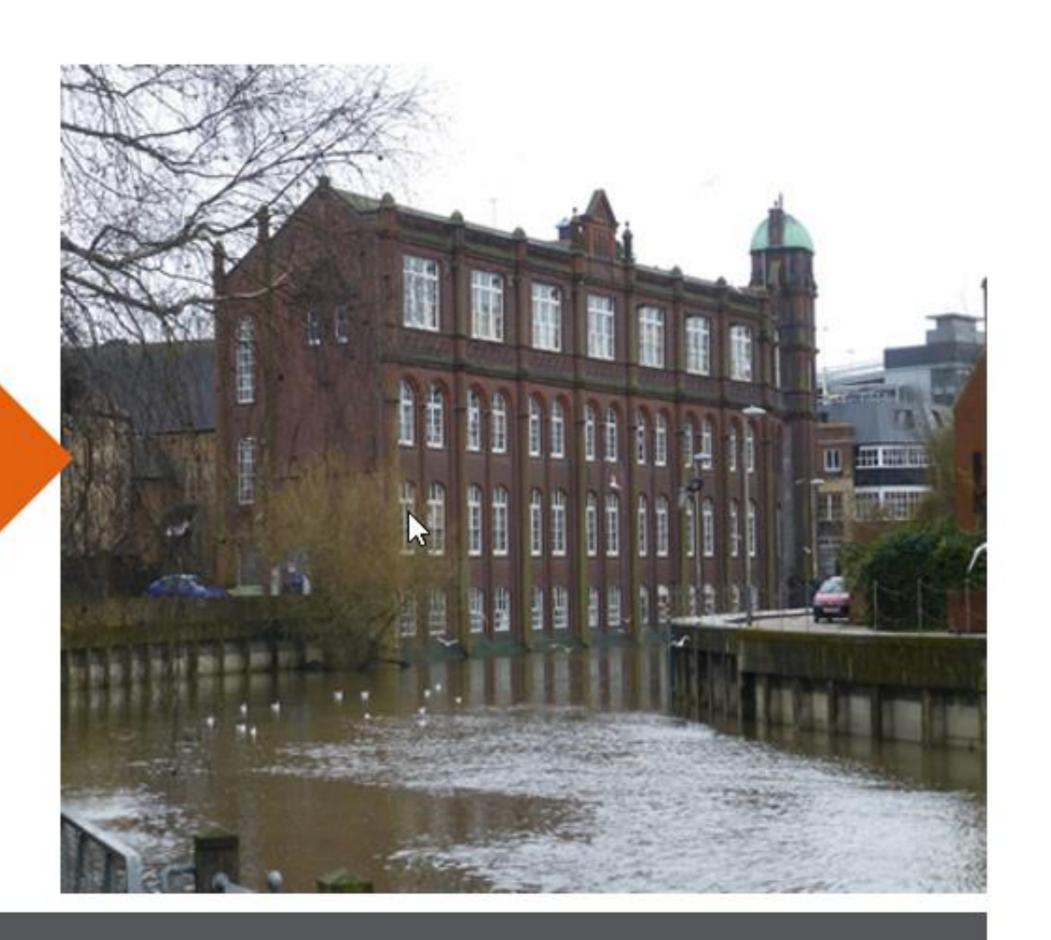
Large-scale terrorist attacks

Massive incident of data fraud/theft



Value Engineering



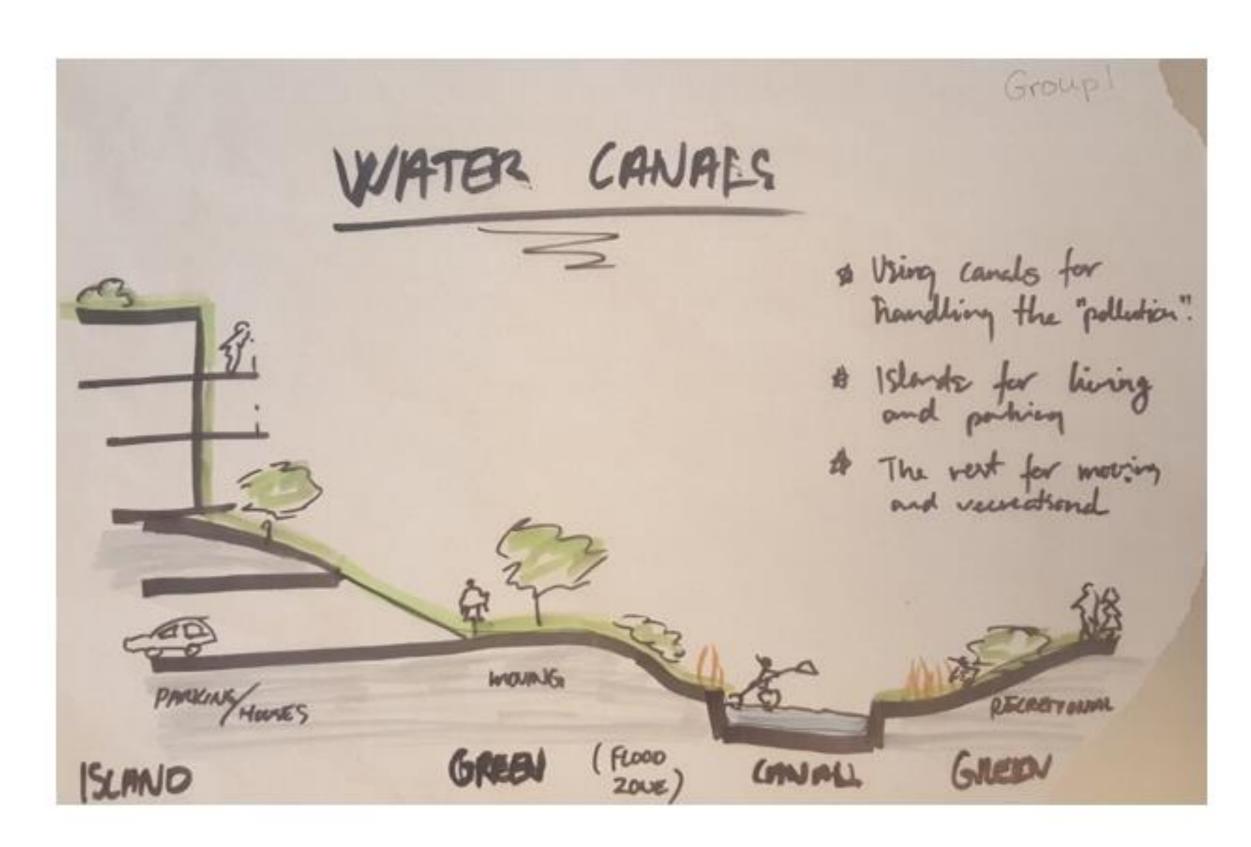


Working towards bankabililty



Value Capturing





Working towards bankabililty



Financial Arrangements

Table 2 Financial vehicles per opportunity

Financial vehicle	Opportunity			Remarks
	R1	R2	R3	
Public investment (municipal budget)	X	X	X	No need for external m municipality has enough initial value adding (R3)
EU-funds	Χ			Bridge to nature area (R1)
Da nish Funds	Χ			
Subsidies	X	X		Bridge to nature area cleaning waste site information center hist site of the 'borg' (R1) use/clean-up waste site (R)
Public-private investment (e.g. institutional investors)	Χ	X	Χ	PPP afterselling subareas
Green bonds				
Private investment	X	Х	X	
Are a fund with shared risks etc.				



Financial Engineering - covers all 3

Value Engineering

Value Capturing

Financial Arrangements

Working towards bankabililty

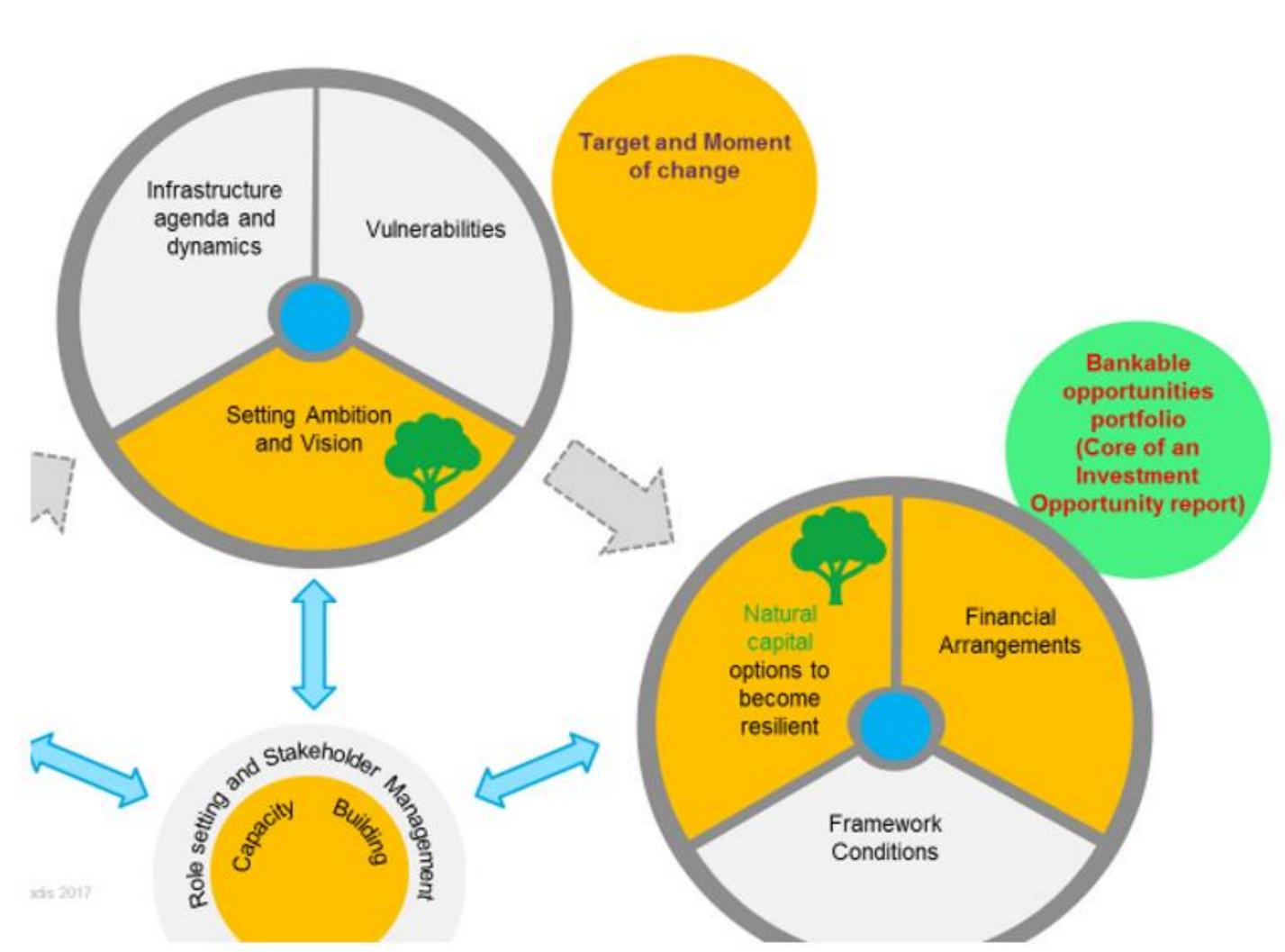


Bridge the gap between natural and financial

engineering

A proven methodology is optioneering

=> idenitfy a portfolio of bankable oportuinties enabling the realization of ambitions





Vejle





Arcadis. Improving quality of life.

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Jane Baptist

Deputy Head of Sustainability, The Crown Estate



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WEST

Ecological corridor connecting St James's Park with Regent's Park









Partner organisations







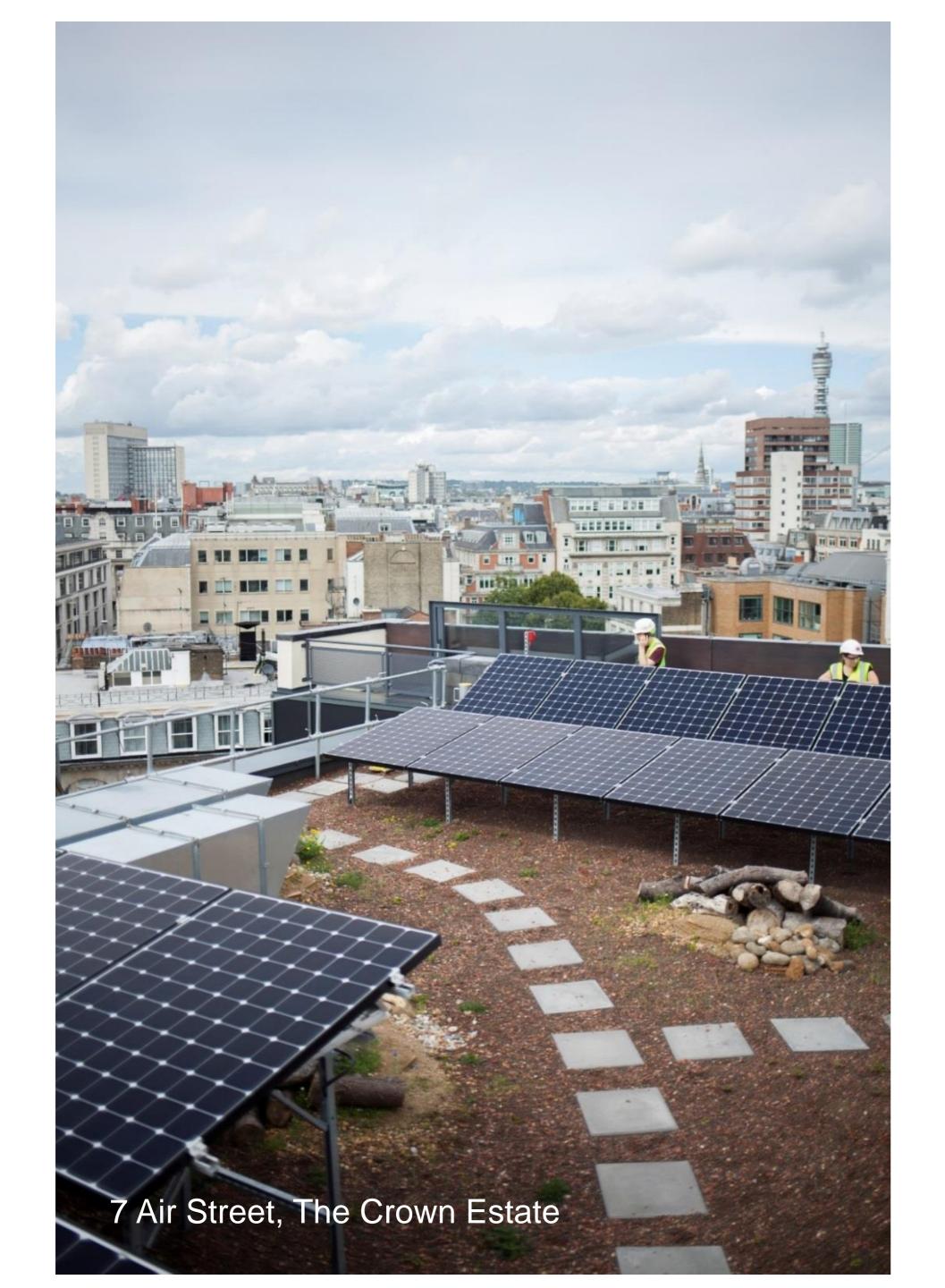


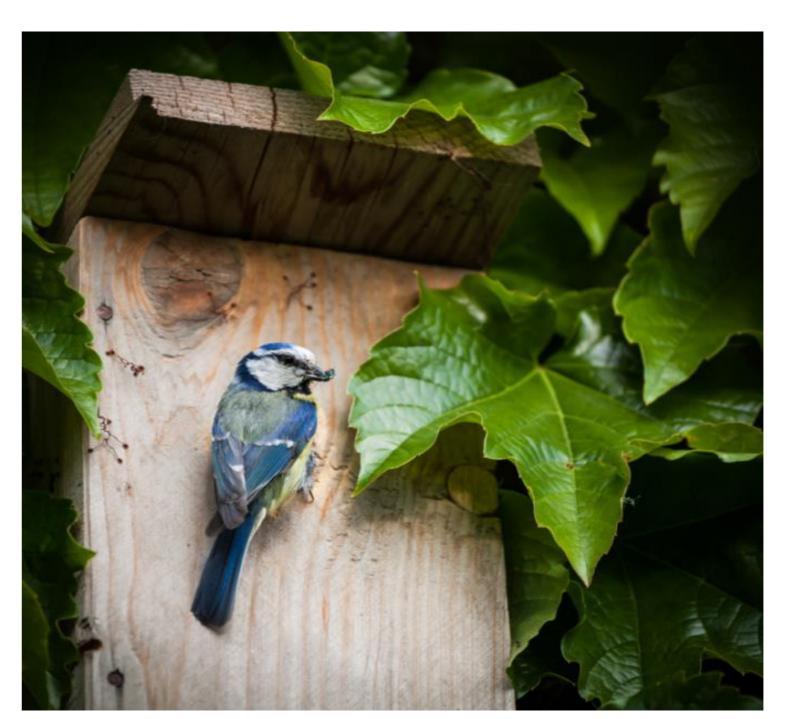
In conjunction with









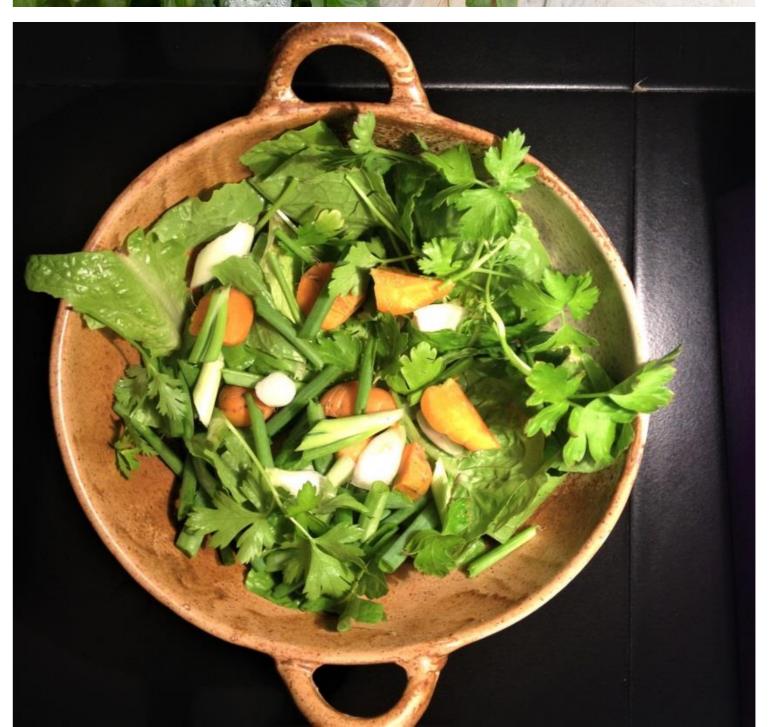




Regent Street, The Crown Estate





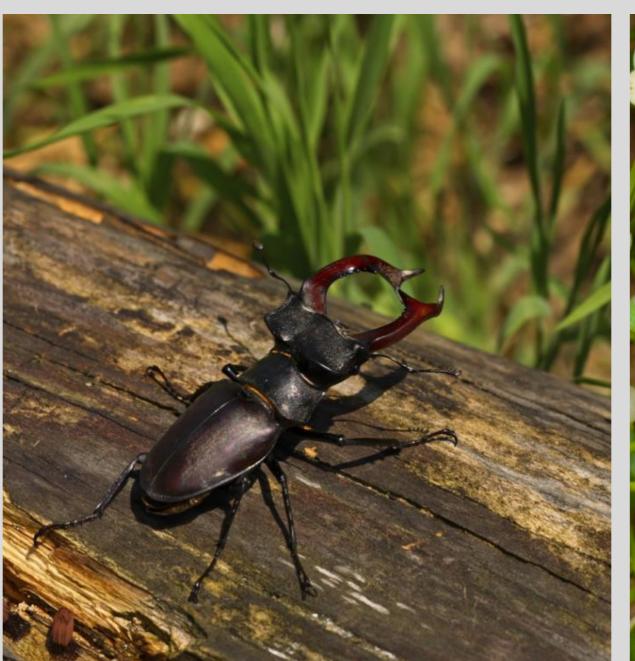


Priority species:

Black redstart
Stag beetle
Mistletoe
Buttoned Snout Moth
House sparrow
Peregrine Falcon





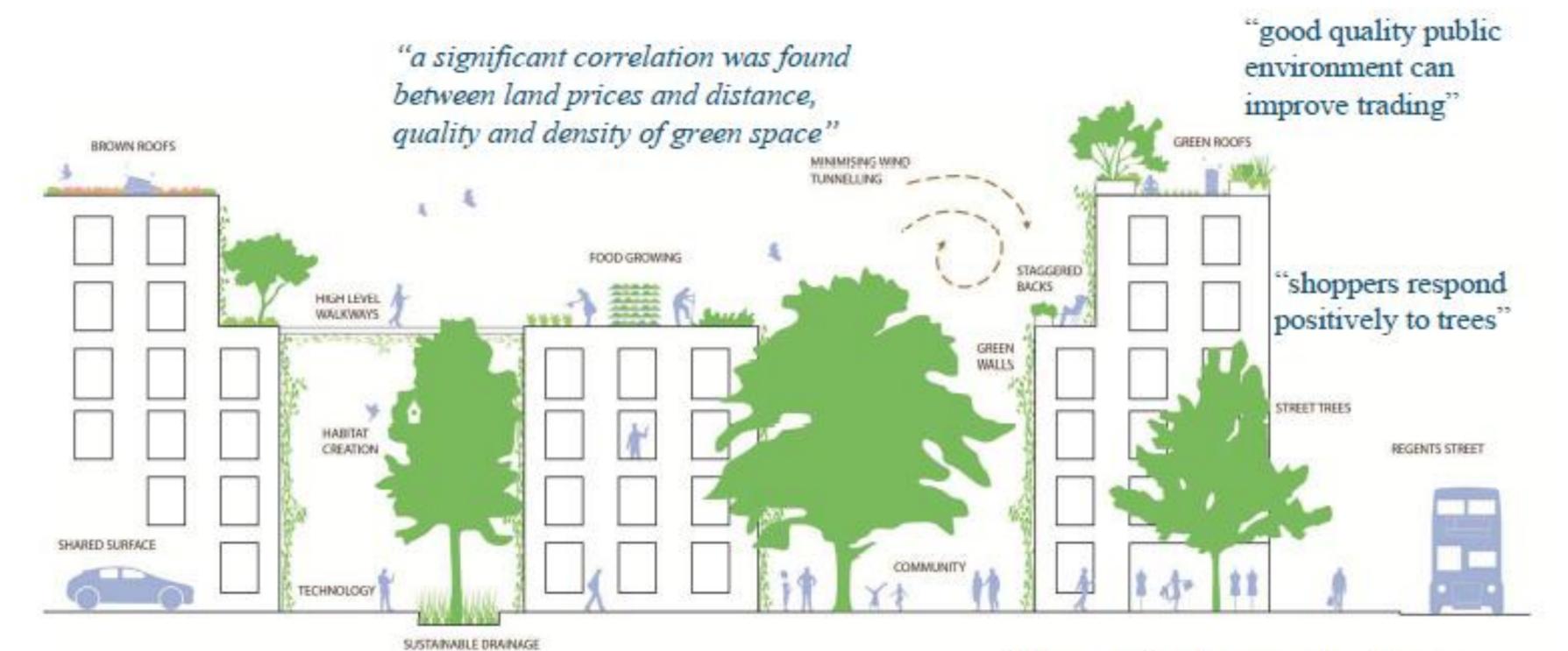






"there is increasing evidence that nature in the urban environment is good for both physical and mental health"

"tree canopy helps create a sense of place" "trees can also enhance traffic calming measures"



"visitors judge districts with trees as more pleasant"

"desk workers who have a view of nature report better job productivity" "Trees and parks can reduce local air temperature by 0.5-5°C"

Ecology and biodiversity

Green
corridors
make
connections
between
animal and
plant
populations

Wellbeing

85% of people say that quality of public space has direct impact on their life and way they feel.

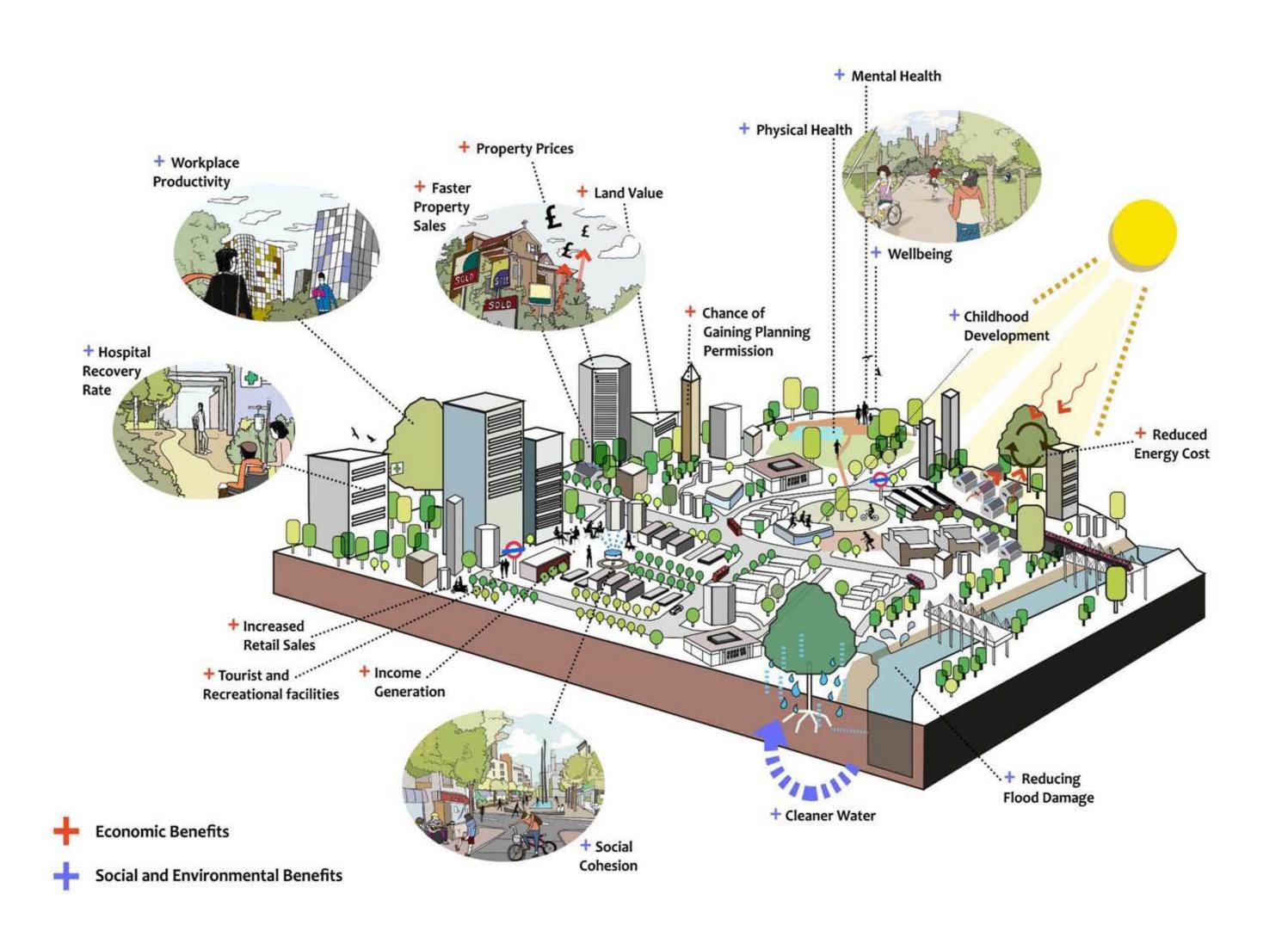
Climate change

Trees can cool air (2-8 degrees C).
Green roofs remove nitrogen dioxide from air and absorb rain water.

Good business sense

Improved
public spaces
- attract
occupiers,
increase rents
and values,
increase retail
footfall and
dwell time.

Capturing the benefits





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