

An aerial, top-down view of a modern urban development. The scene is dominated by lush greenery, including large trees and landscaped parks with winding paths. Several multi-story buildings with light-colored facades are interspersed among the green spaces. In the foreground, there are circular public spaces with people walking. The overall atmosphere is one of a sustainable and livable city environment.

Renaturing Cities for Sustainable Urbanisation

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An aerial architectural rendering of a modern campus. The scene features several multi-story buildings with light-colored facades and flat roofs. Some buildings have green accents or solar panels on their roofs. The campus is heavily landscaped with numerous trees of various sizes and types, including palm trees and large, leafy trees. There are paved walkways, open green spaces, and circular plazas. In the foreground, there are several circular structures that look like outdoor seating areas or small pavilions. The overall atmosphere is bright and green, suggesting a sustainable and walkable environment.

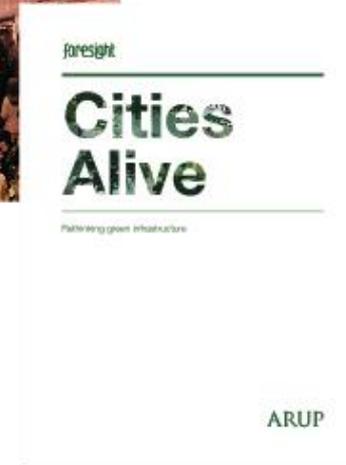
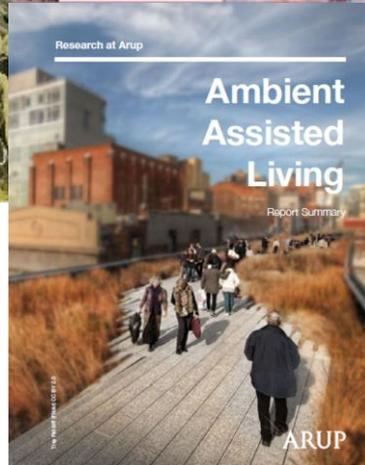
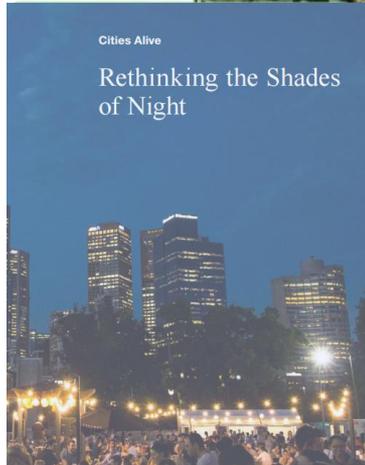
Arup Drivers Benefits Actions



2012 Olympic Park



Olympic Park, London



What will our future cities look like?

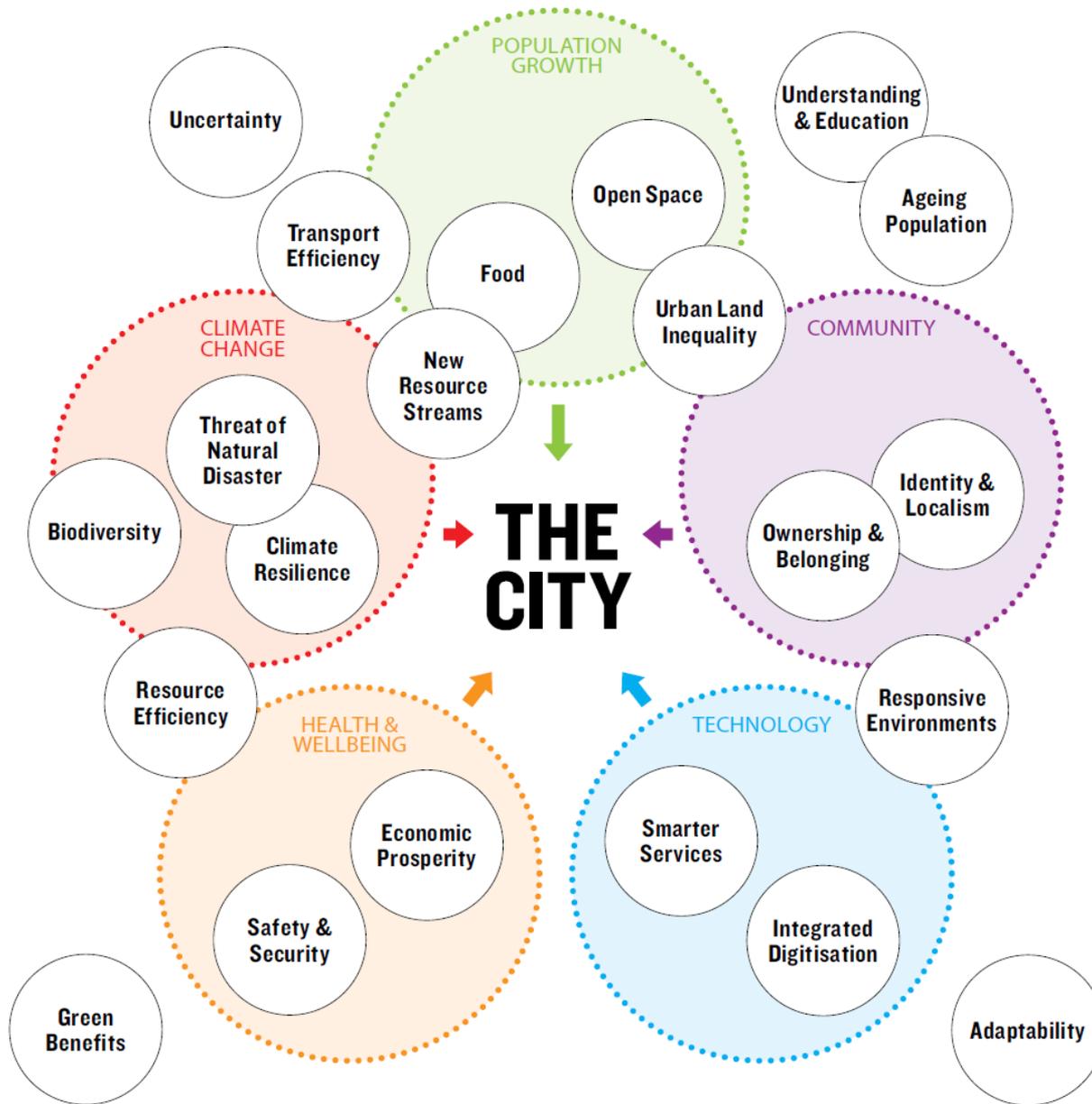


Nature-Based Solutions: Sustainable Urbanisation

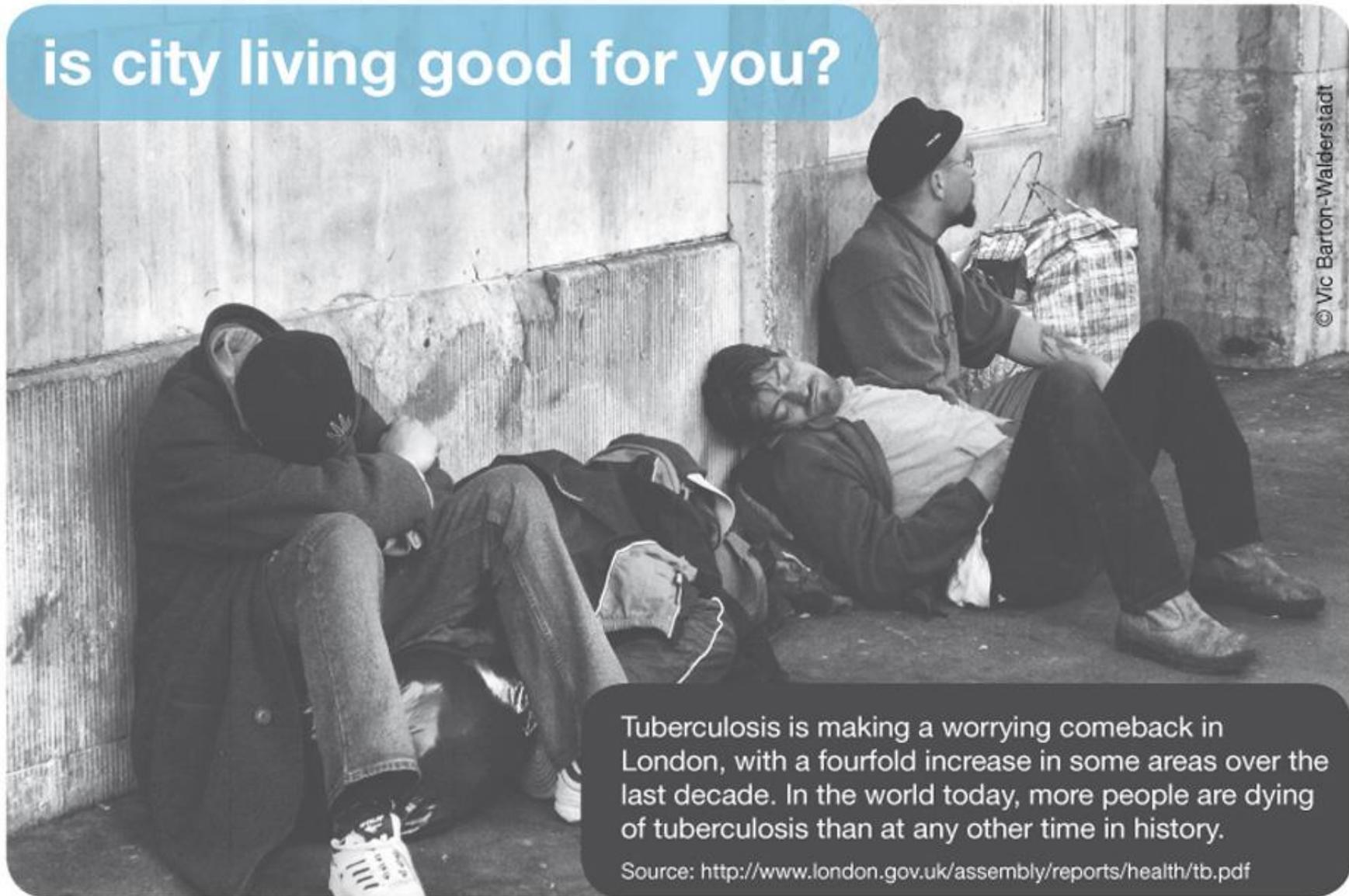


Drivers

An aerial architectural rendering of a modern campus. The scene features several multi-story buildings with light-colored facades and green accents. A central courtyard is filled with lush greenery, including large trees, smaller plants, and a winding path. In the foreground, there are circular outdoor seating areas with tables and chairs. The overall atmosphere is bright and airy, suggesting a well-planned, green urban environment.



is city living good for you?



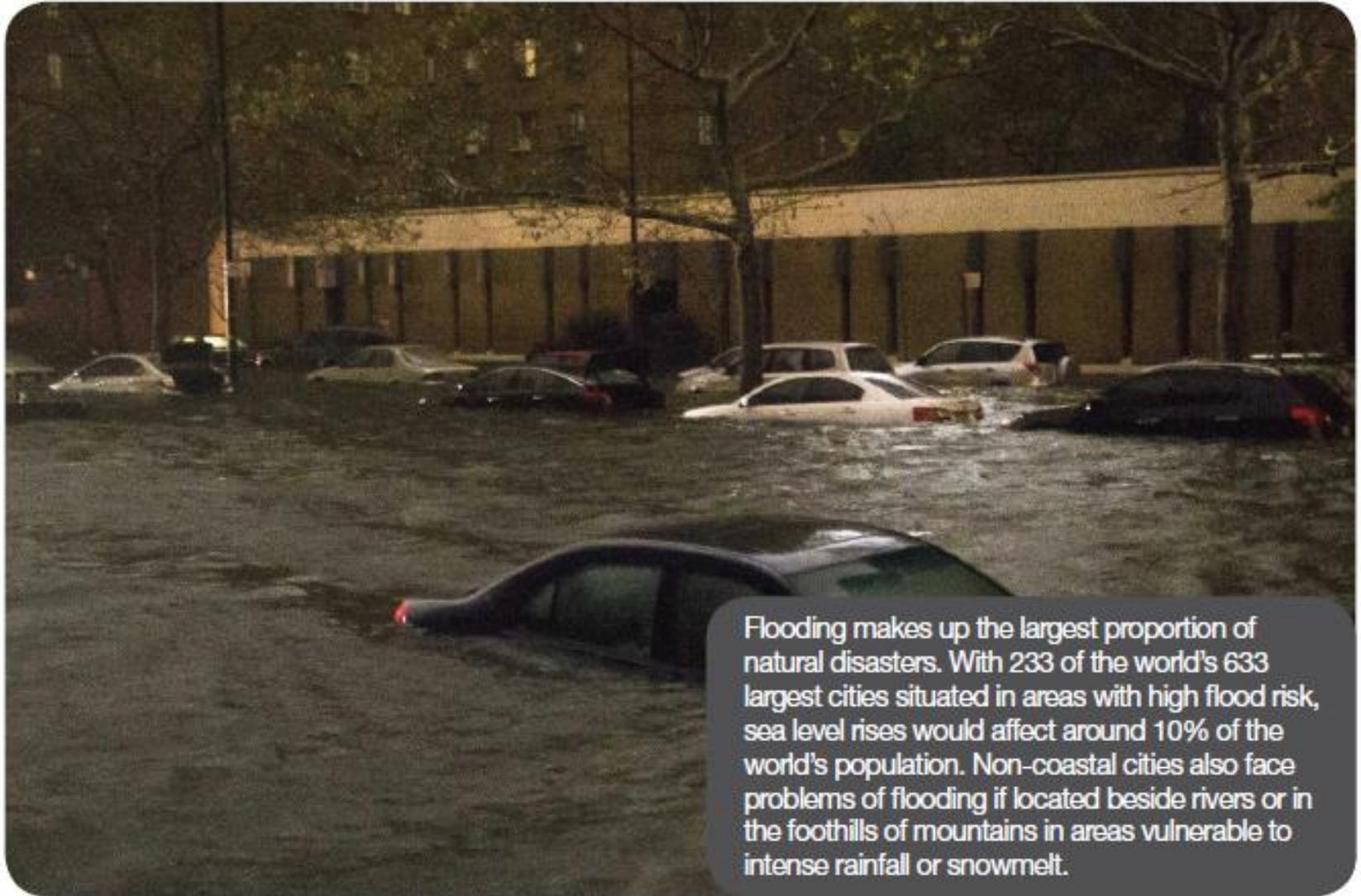
© Vic Barton-Walderstadt

Tuberculosis is making a worrying comeback in London, with a fourfold increase in some areas over the last decade. In the world today, more people are dying of tuberculosis than at any other time in history.

Source: <http://www.london.gov.uk/assembly/reports/health/tb.pdf>

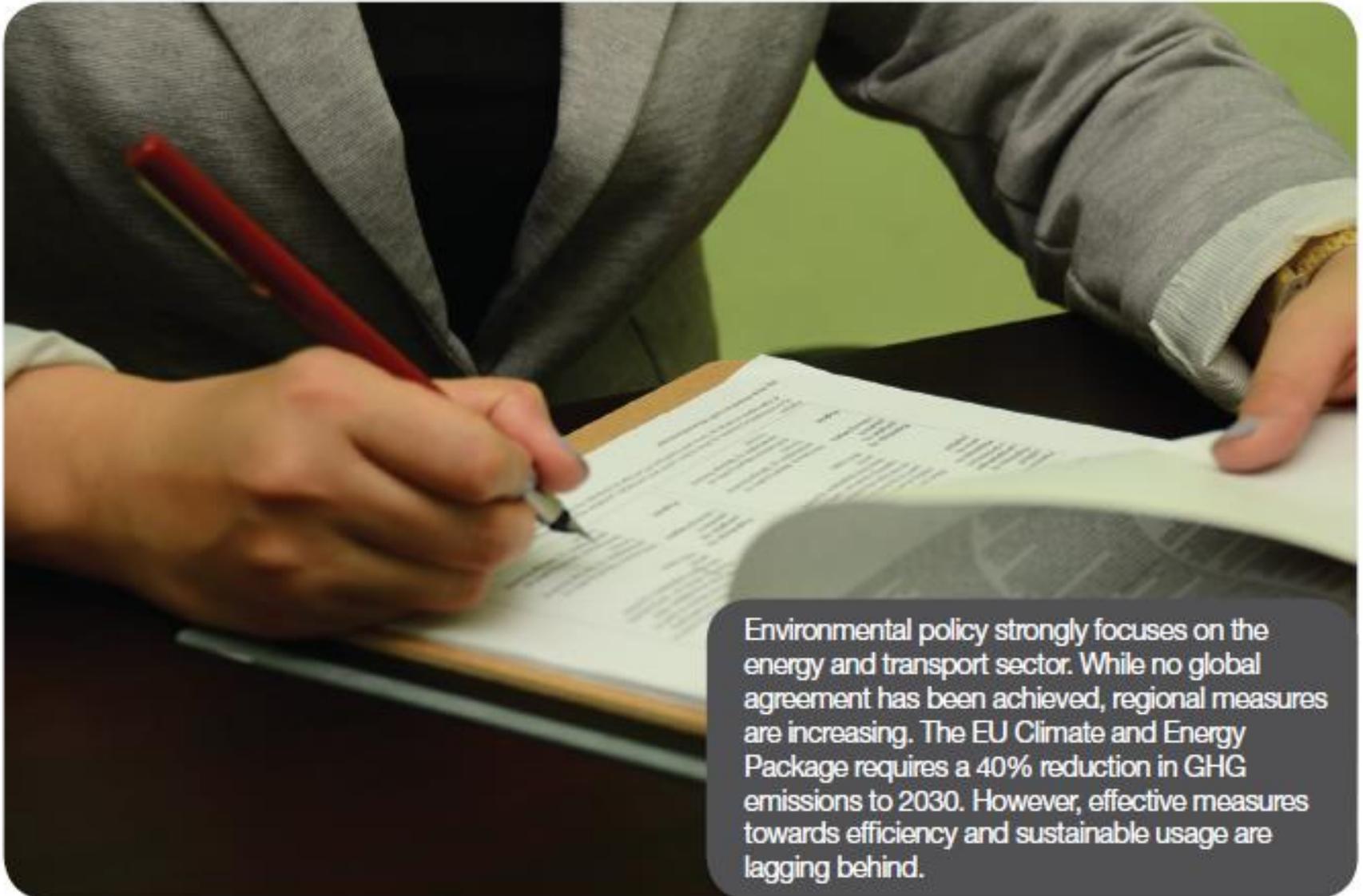
health

ARUP



Flooding makes up the largest proportion of natural disasters. With 233 of the world's 633 largest cities situated in areas with high flood risk, sea level rises would affect around 10% of the world's population. Non-coastal cities also face problems of flooding if located beside rivers or in the foothills of mountains in areas vulnerable to intense rainfall or snowmelt.

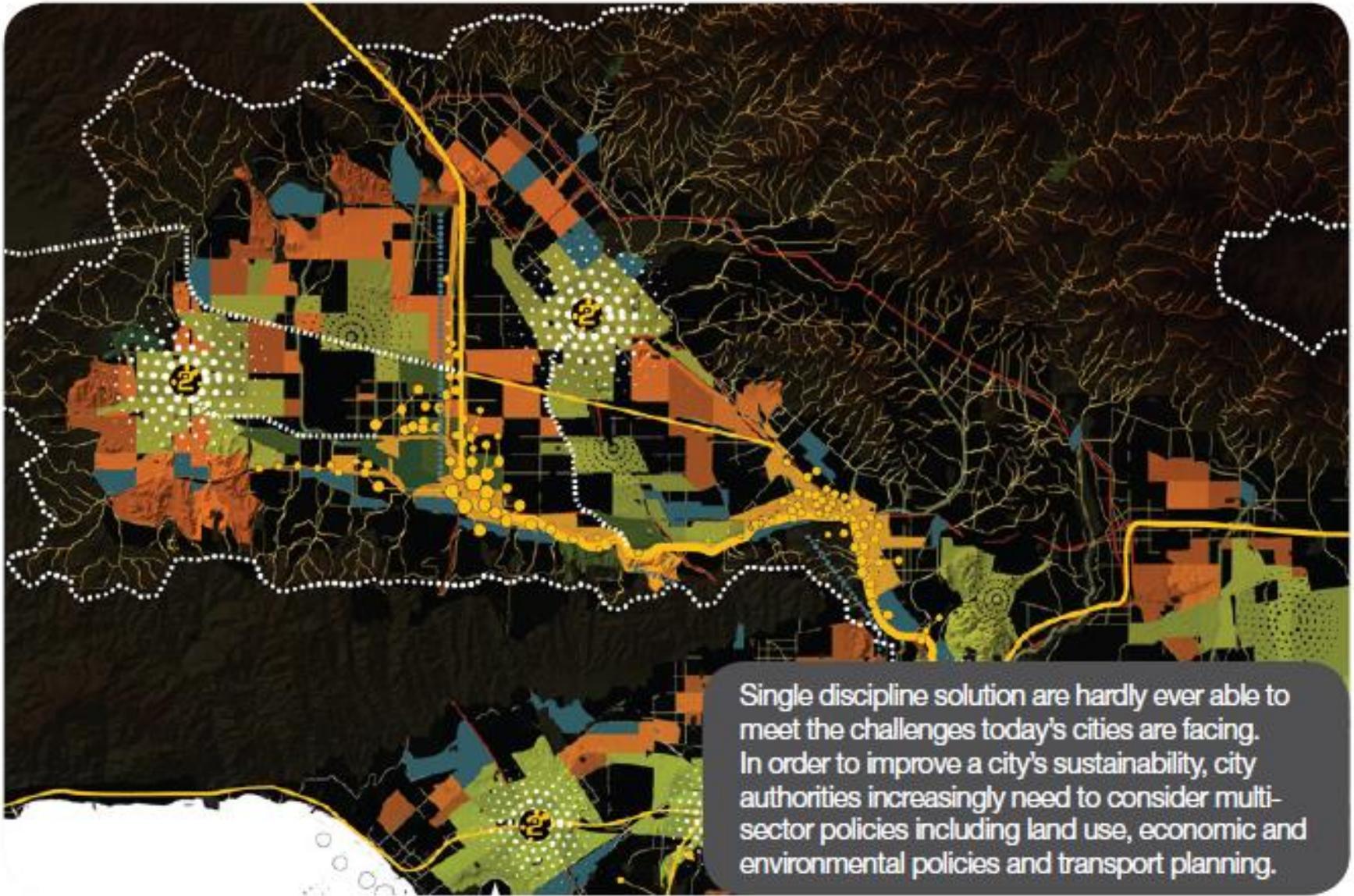
flooding



Environmental policy strongly focuses on the energy and transport sector. While no global agreement has been achieved, regional measures are increasing. The EU Climate and Energy Package requires a 40% reduction in GHG emissions to 2030. However, effective measures towards efficiency and sustainable usage are lagging behind.

environmental policy

ARUP



Single discipline solution are hardly ever able to meet the challenges today's cities are facing. In order to improve a city's sustainability, city authorities increasingly need to consider multi-sector policies including land use, economic and environmental policies and transport planning.

integrated planning

ARUP

An aerial architectural rendering of a modern campus. The scene features several multi-story buildings with light-colored facades and green accents. The campus is heavily landscaped with numerous trees, including large deciduous trees and smaller palm trees. There are various outdoor spaces, including a circular plaza with colorful abstract art, a large open lawn, and a series of curved, tiered walkways. People are depicted walking throughout the campus, providing a sense of scale and activity. The overall atmosphere is bright and green, suggesting a focus on sustainability and a high-quality learning environment.

Benefits

A large crowd of people is gathered on a grassy hillside, sitting and standing, enjoying the view. In the background, the London 2012 Olympic Stadium and the ArcelorMittal Orbit sculpture are visible under a blue sky with white clouds.

1

Social Benefits: Rethinking Urban Communities

Encouraging Healthy and Sustainable Lifestyles

Supporting Urban Communities

Investing in Liveable Spaces



the sooner you park your car,
the sooner you can stop thinking

Community-led regeneration:
Strength identity of the area



Public interventions Park(ing) Day:
Highlight issues of car-dominant spaces



2

Environmental Benefits: Smart and Resilient Environments

Enabling Long-Term
Climate Resilience

Creating Smart and
Connected Landscapes

Fostering Urban
Biodiversity

Traffic calming measures:
Create illusion of speed





Designing for future climate change:
Design for heat expansion and water permeability

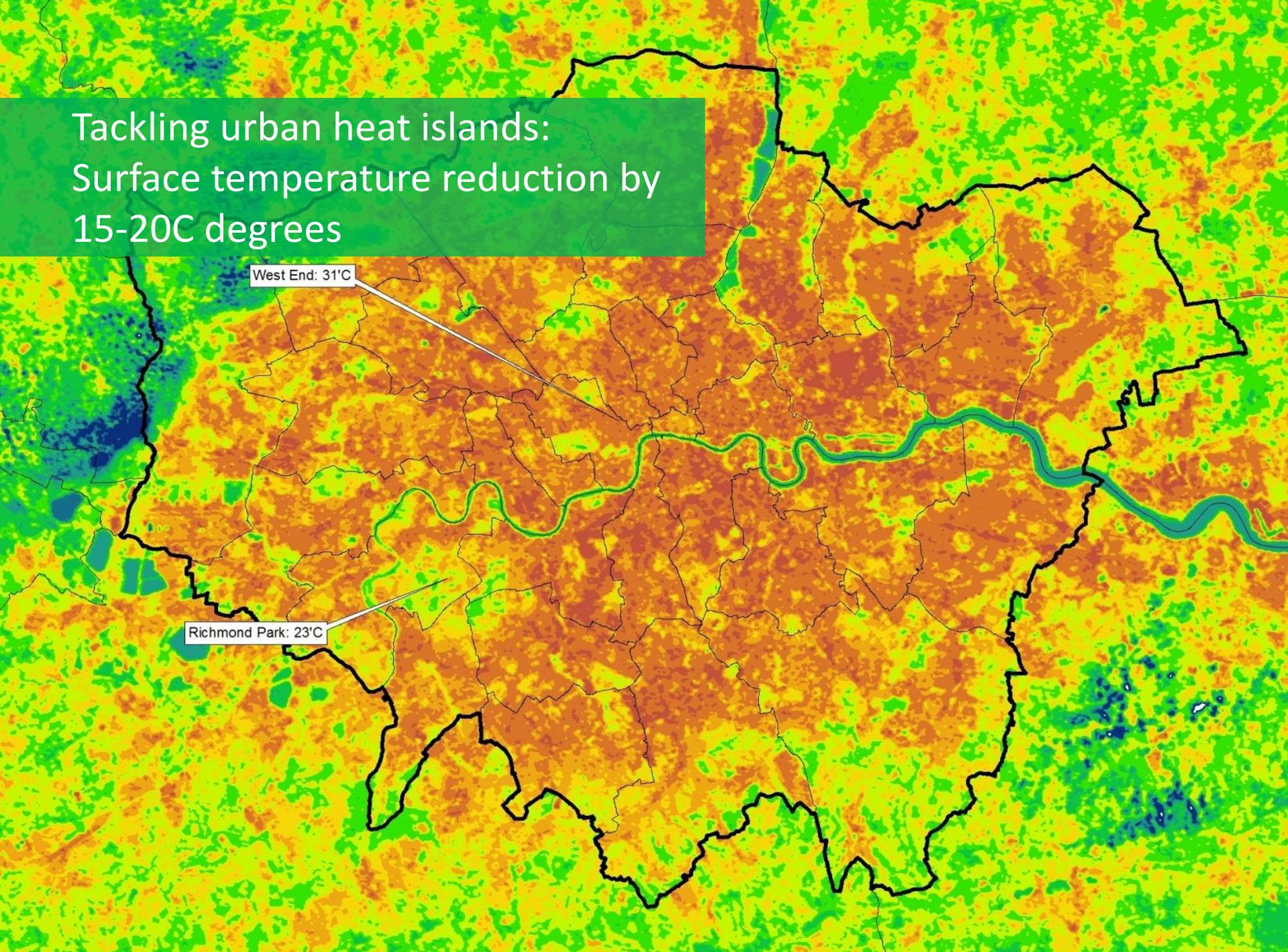
**“Existing urban green can
slow down and reduce storm
water runoff by 4 to 8%”**

Herrera Environmental Consultants, The Effects of Trees on
Storm Water Runoff (2008)

Tackling urban heat islands: Surface temperature reduction by 15-20C degrees

West End: 31°C

Richmond Park: 23°C



An aerial photograph of a city with a wide river. A modern, tree-like bridge spans the river, with a white boat docked nearby. The city skyline is visible in the background under a blue sky with scattered clouds.

3

Economic Benefits: Urban Resource Streams

Integrating Urban Food

Renewing Urban Spaces

Enabling Energy and
Resource Efficiency

An aerial photograph of a park area with numerous trees. Each tree is marked with a red dot and a label indicating its species and a monetary value. The values range from \$0 to \$39,204. A blue semi-transparent box is overlaid on the top left of the image, containing the text 'i-Tree Eco software: Placing a value on natural assets'.

i-Tree Eco software: Placing a value on natural assets

"City trees raise property values by 5-18%"

Cabe Space 2005

Maximising the opportunities of infrastructure: Improve city environment



Cheonggyecheon River in Seoul



Renewing urban spaces:
30-50% land price increase



An aerial architectural rendering of a modern campus. The scene features several multi-story buildings with light-colored facades and green accents. A central courtyard is filled with lush greenery, including large trees, smaller plants, and a circular area with a colorful design. A winding path or stream flows through the courtyard. In the foreground, there are circular tables and chairs, suggesting an outdoor dining or seating area. The overall atmosphere is bright and vibrant, with a focus on sustainable and green architecture.

Actions

Recommended Research and Innovation actions Sustainable Urbanisation

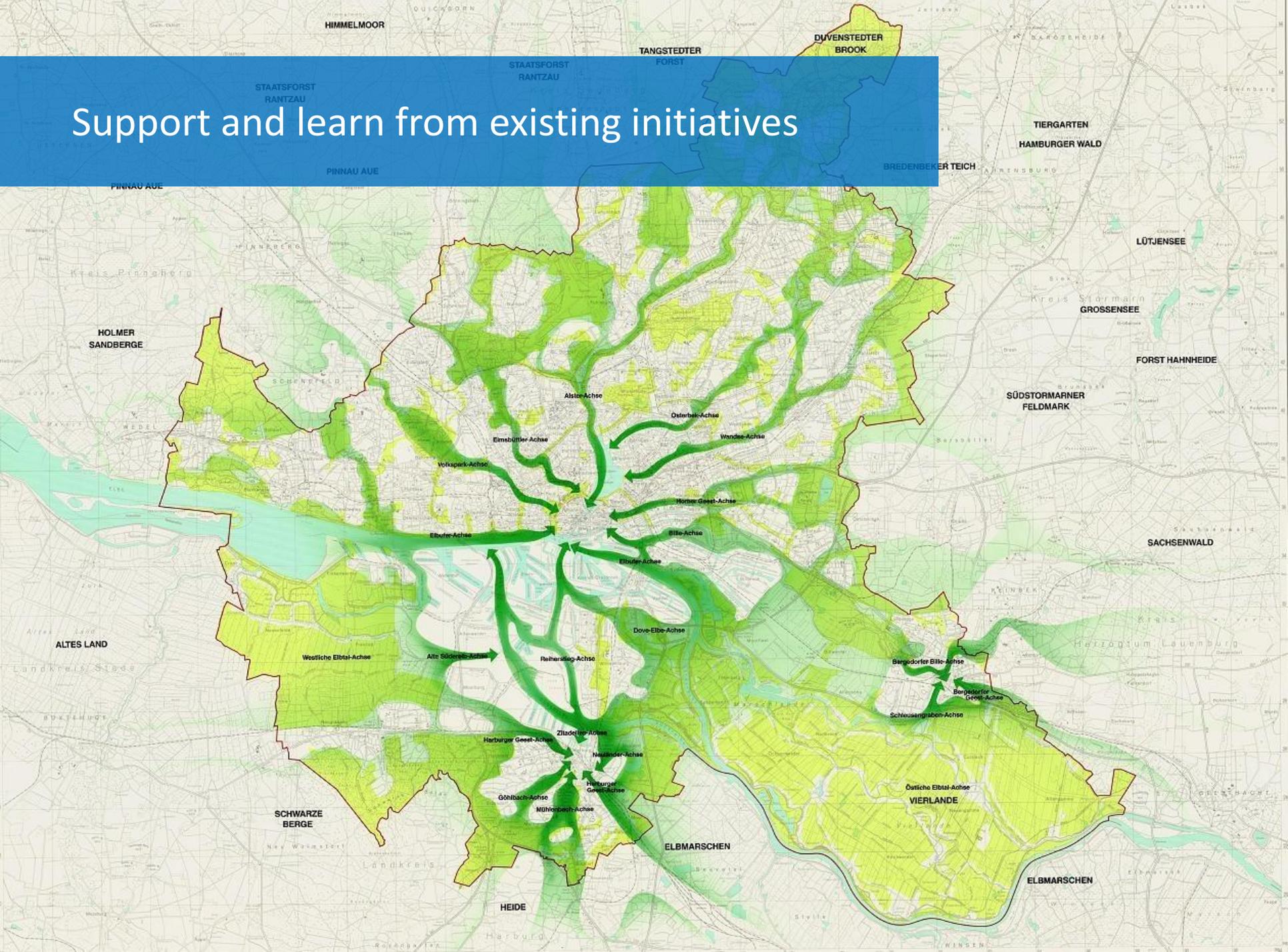


Urban regeneration through
nature-based solutions



Nature-based solutions for
improving well-being in urban areas

Support and learn from existing initiatives



BAF =

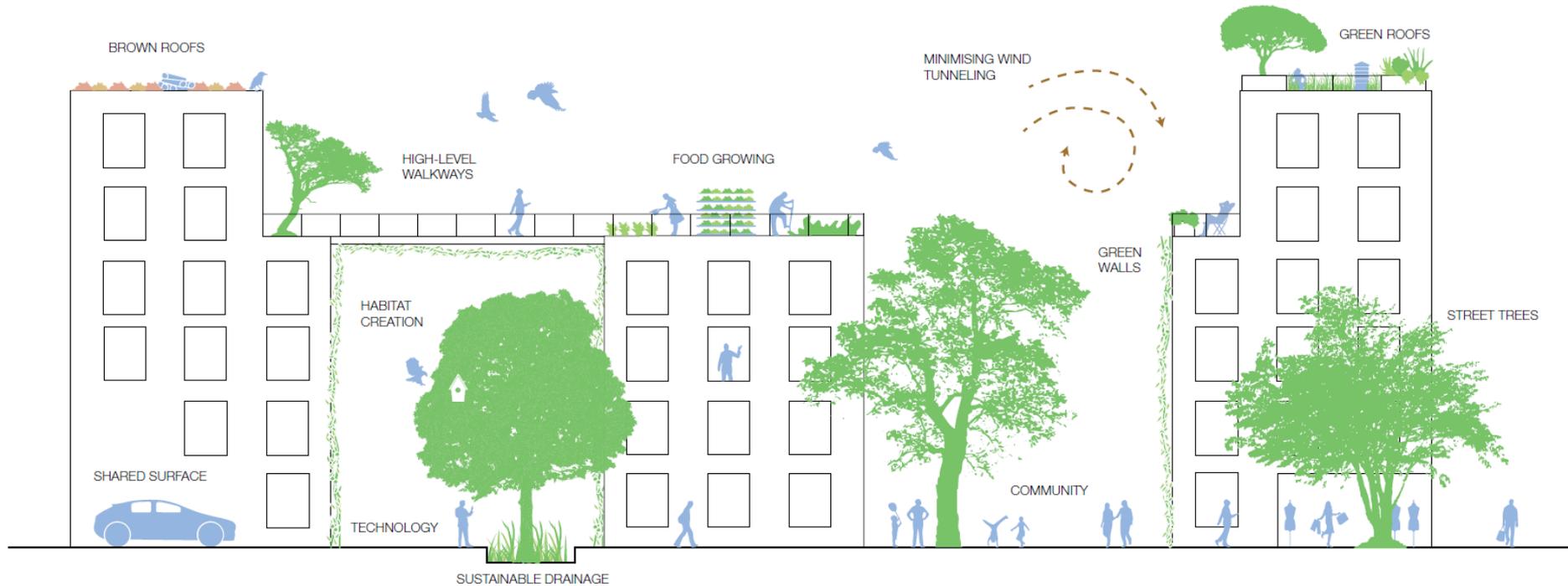
Ecologically effective surface areas

Total land area



Development of effective policy

Support large scale pilots to generate evidence for developers and local authorities



An aerial illustration of a city with green roofs and parks. The buildings have solar panels on their roofs. There are large trees, a river, and people walking in the parks. The scene is set at dusk or dawn, with a soft glow from the buildings and the sky.

foresight

Cities Alive

Rethinking green infrastructure

Report and illustration
available at arup.com

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