

The importance of bringing green into our worlds

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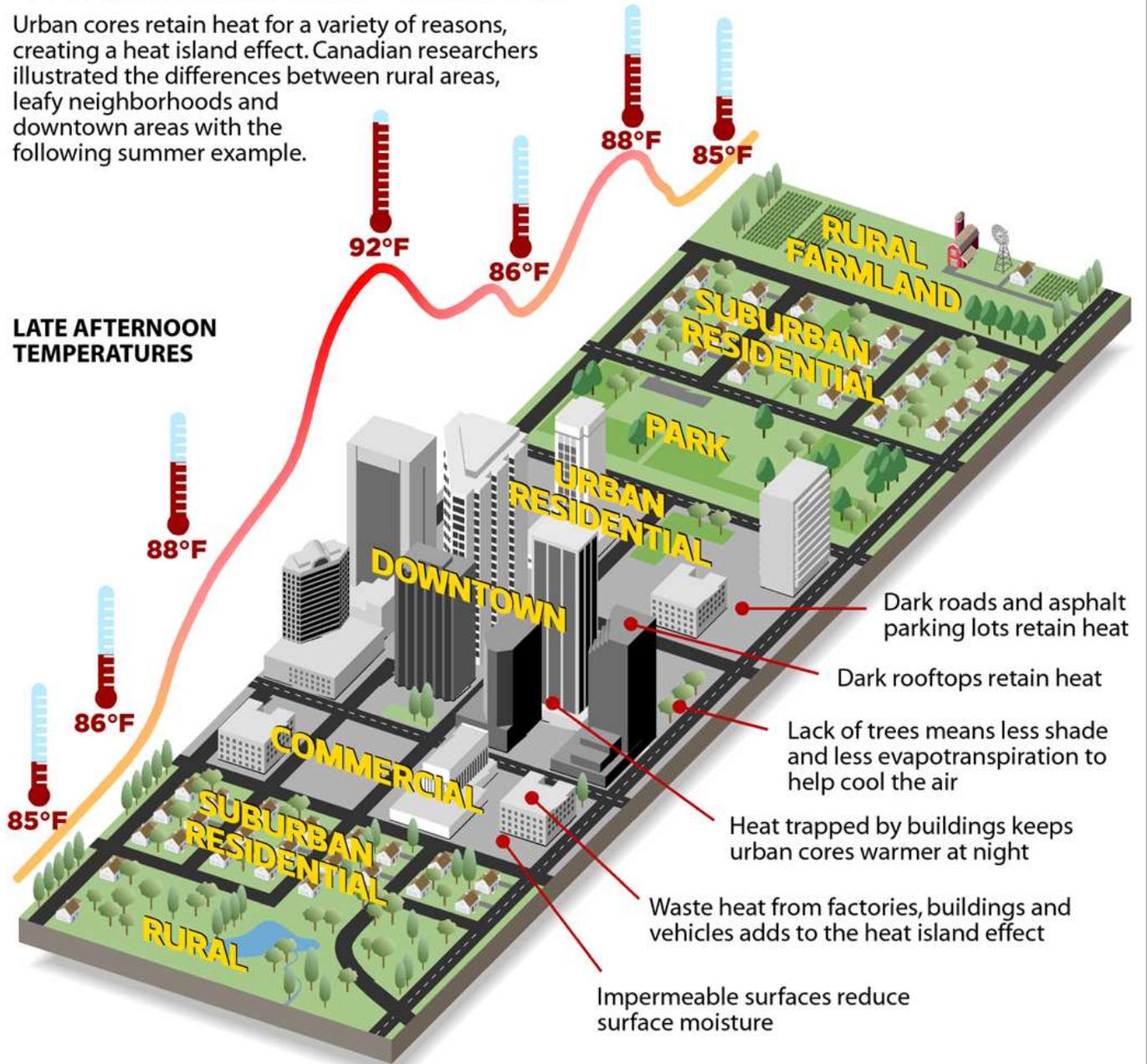


Where next?

Global warming & heat islands

Urban Heat Island Effect

Urban cores retain heat for a variety of reasons, creating a heat island effect. Canadian researchers illustrated the differences between rural areas, leafy neighborhoods and downtown areas with the following summer example.



SOURCE: D.S. Lemmen and F.J. Warren, Climate Change Impacts and Adaptation

PAUL HORN / InsideClimate News

Mapping the heat island effect

City of Melbourne - researching climate sensitive urban design approaches

Scenario tool developed to measure impact of urban greening, water bodies and tree canopy covers



Flash floods & rising water levels



An aerial photograph of a modern park. In the foreground, a rectangular water feature is filled with tall, green reeds. A concrete walkway winds through the park, with several long, low concrete benches. A person in a blue shirt is walking on the path, and another person is sitting on one of the benches. The park is surrounded by a dense canopy of green trees. The text "The benefits of green- blue infrastructure" is overlaid in white, bold font in the center of the image.

**The benefits of
green- blue infrastructure**

Environmental, Social and Economic



Environmental

1. Water quality of receiving bodies
2. Groundwater recharge
3. Biodiversity & ecology enhancement
4. Temperature reduction
5. Air quality improvement

Social

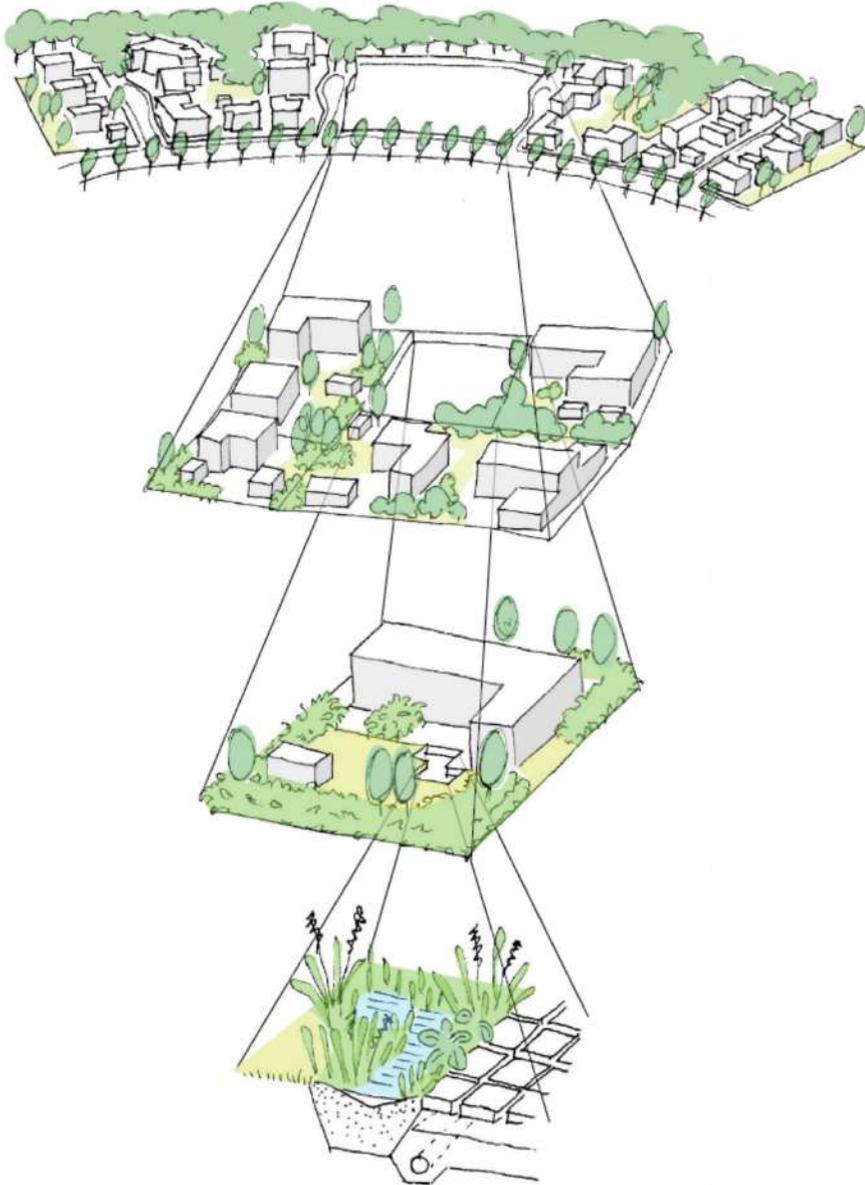
1. Amenity and aesthetics
2. Recreation and health
3. Mental health and wellbeing
4. Food Security
5. Community Stewardship

Economic

1. Rainwater Harvesting
2. Pumping - treatment reduction
3. Energy savings in buildings
4. Real estate value appreciation
5. Skills - training - job creation



Varying scales of intervention



Neighbourhood scale:

- Define wider ecological networks and water systems
- Ensure how plots will respond to this wider network
- Define strategies for private properties that will support/ enhance this system

Urban block scale:

- Maximise the area of connected pervious areas
- Respect dry habitats needed next to buildings
- Shared soil volumes next to borders

Plot scale:

- Avoid narrow band like plantings
- Multilayered - water demanding plantings closer to sources - impermeable surfaces or downspouts
- Use large vegetated areas - local species that attract and create enhanced habitats

Detail scale:

- Use SUDs with multilayered vegetation
- Create growing conditions for multilayered vegetation
- Respect construction, no infiltration to drainage

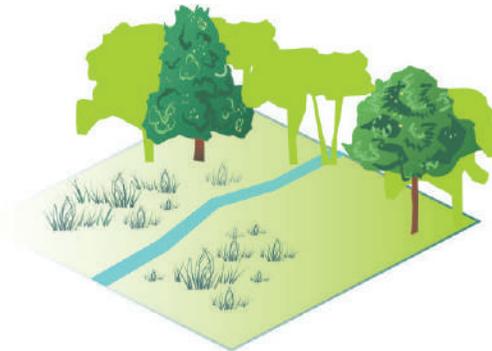
Interweaving landscape character areas



OPEN SPACE & RECREATION

Landscapes for community use, social, play and cultivation.

Playgrounds
Neighbourhood parks
Sports fields
Trails
Fitness
Gardens



ECOLOGICAL & NATURAL LANDSCAPES

Meadows and forests providing habitats and environmental benefits.

Nature Parks
SSSI's
Natures Trails
Wildlife Sites
Heaths
Woodland



BLUE & GREEN INFRASTRUCTURE

Landscapes that capture water, provide flood mitigation and natural drainage.

Lakes
Retention ponds
Attenuation basins
Swales
Infiltration medians
Green buffers

Which street feels more walkable?



More than 67 trees need to be planted per year to offset the CO2 emissions of a single Brit!

According to a Swiss study, 1.2 billion trees would have to be planted on Earth to absorb two-thirds of the CO2 produced by man since the industrial age.



Grey to Green

Sheffield - Grey to Green project
**Multilayered planting attracts
wildlife, combats air pollution
and reduces carbon emissions**



Grey to Green

Worship Square - Hackney



Green to Greener

Pitfield Street Triangle - Hackney



Building awareness in communities



Vegetate as much as you want

Paris- Licence for citizens- programme established in July 2016





Bold ideas

High Line, New York 1999 - inspired by Promenade Plantée, Paris 1993

Swales, raingardens and tree pits

Breda, Cool Towns project Netherlands - Bluegreen.com



This evapotranspiration has been proven to cool surrounding spaces significantly, in addition to the shade that trees give – and without the use of any energy!



Food Security

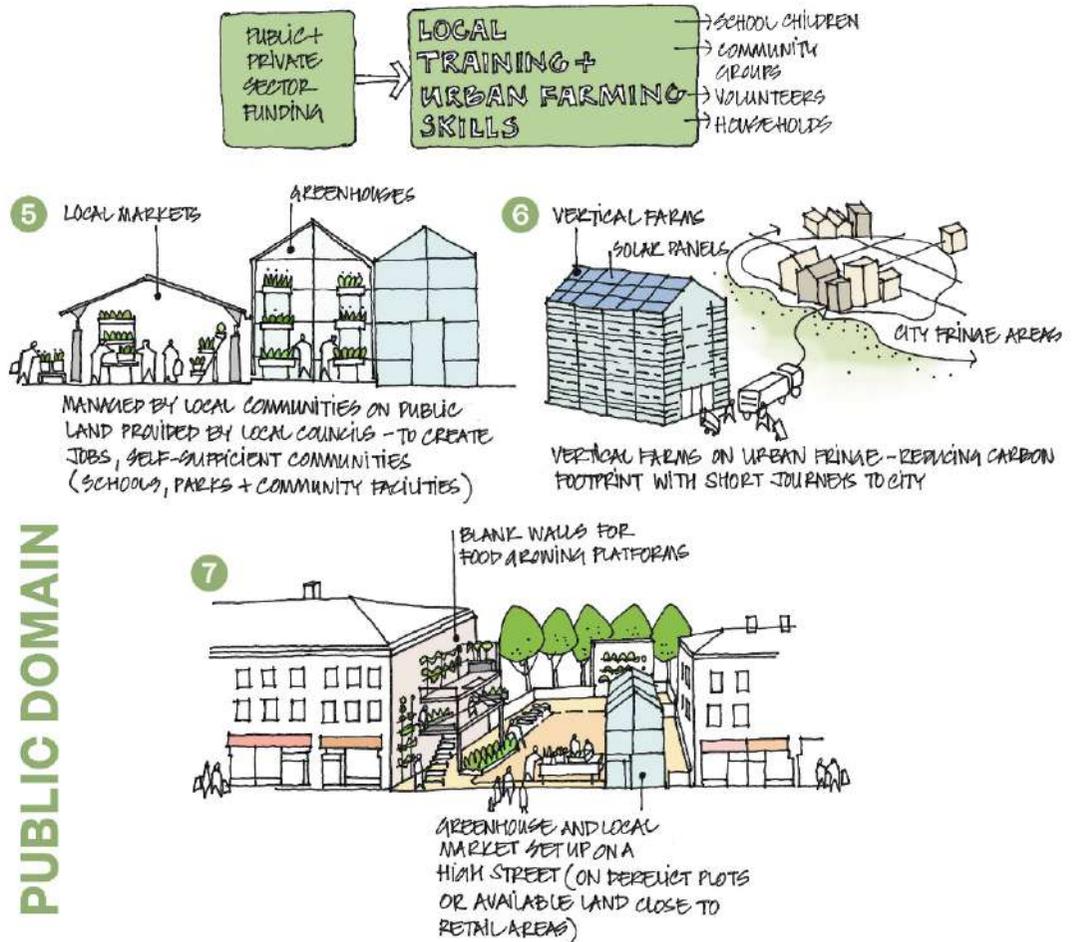
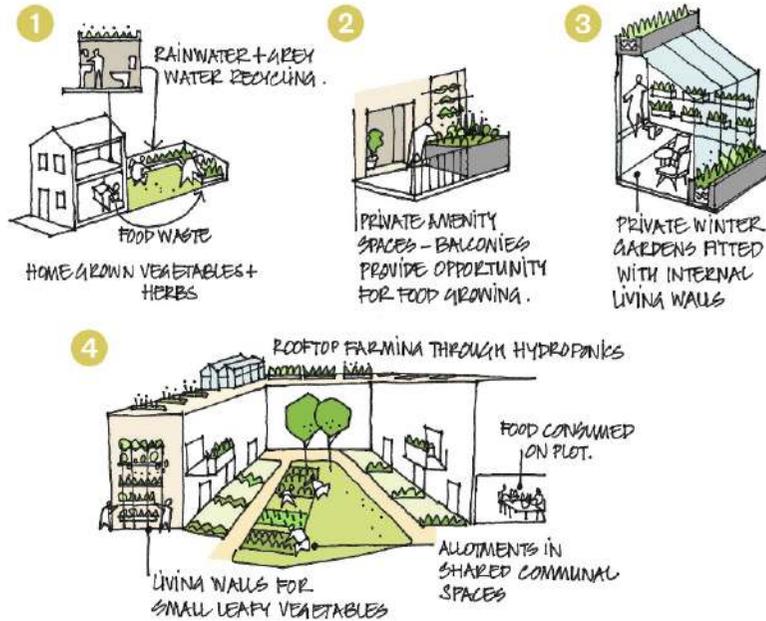
Our carbon footprint



An analysis of HM Revenue & Customs data on food items imported to the UK between January and June 2018. Data sourced from UKtradeinfo.com

Urban farming - at various scales

PRIVATE / SEMI PRIVATE
DOMAIN



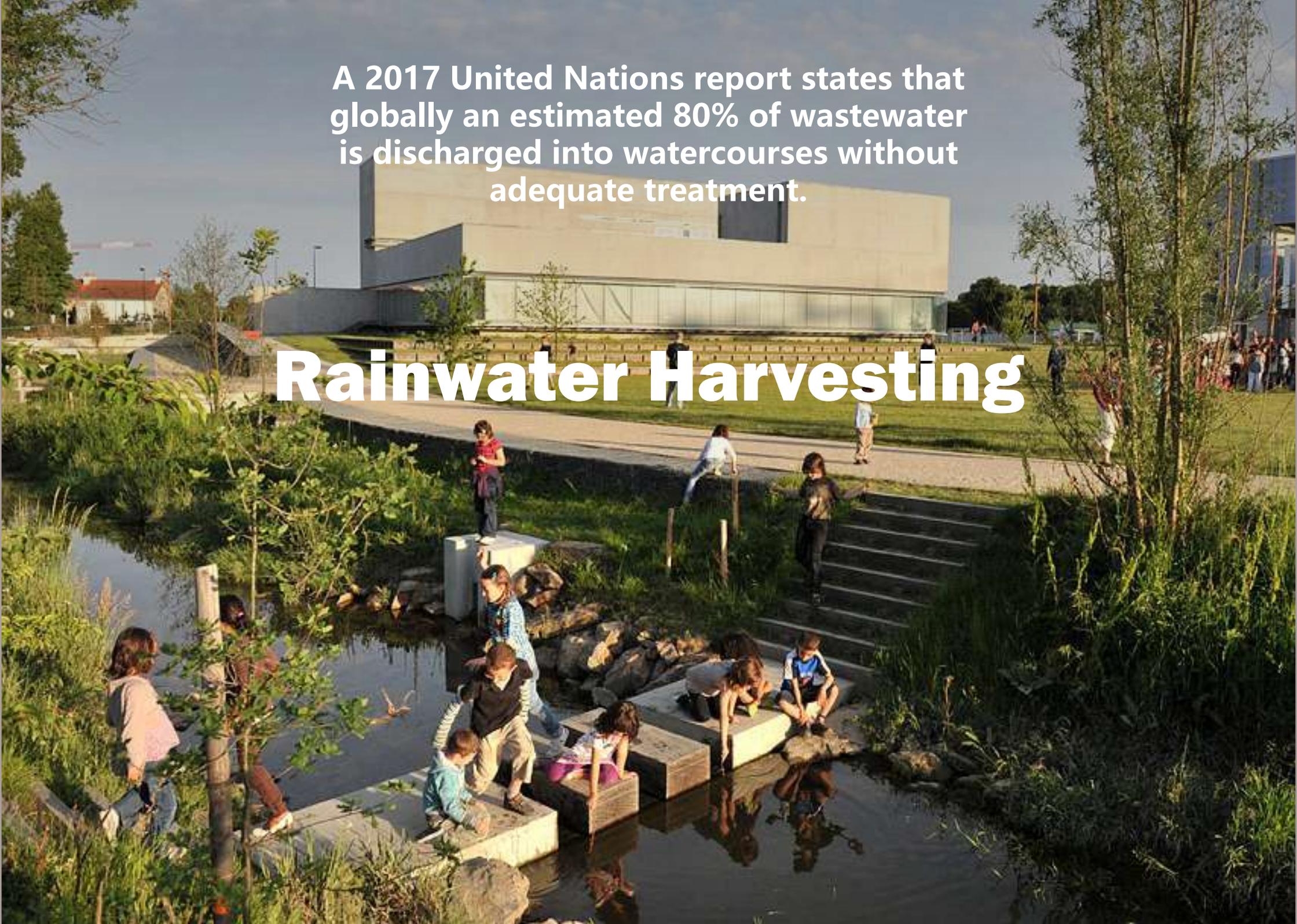
PUBLIC DOMAIN

Bold ideas



A 2017 United Nations report states that globally an estimated 80% of wastewater is discharged into watercourses without adequate treatment.

Rainwater Harvesting





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...in many cases the first flush of stormwater in an urban area may have a level of contamination much higher than normally present in sewage...

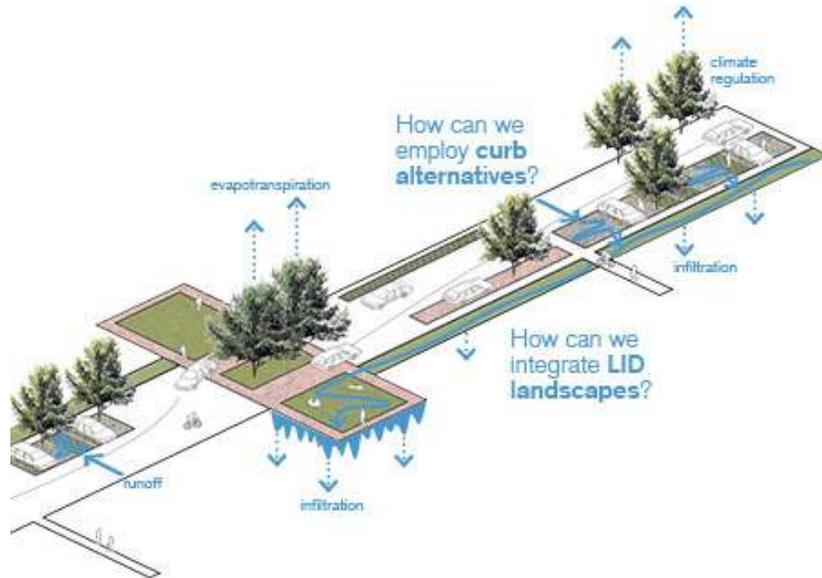
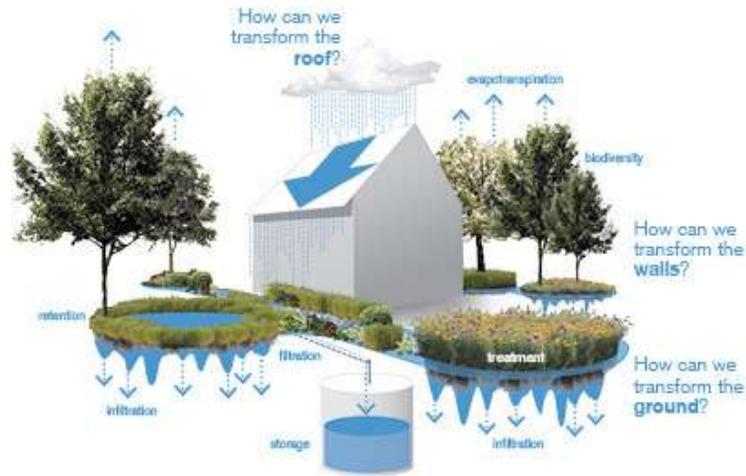
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Craig Campbell and Michael Ogden,
Constructed Wetlands in the Sustainable Landscape

What if urban stormwater infrastructure enhanced ecological functioning to serve as a civic asset rather than an environmental liability?

impervious surfaces

Design as part of infrastructure



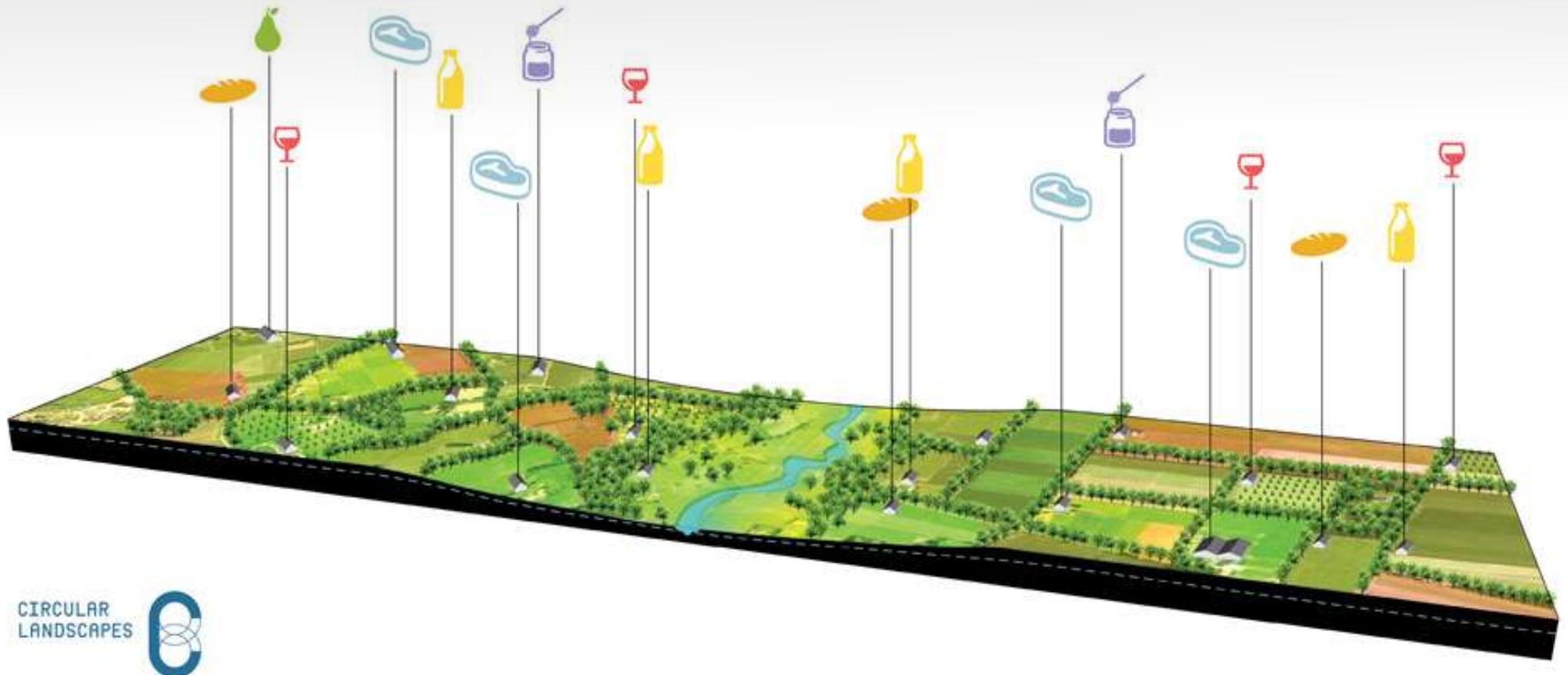
Community buys in...

Hammarby Sjöstad, Stockholm, Sweden

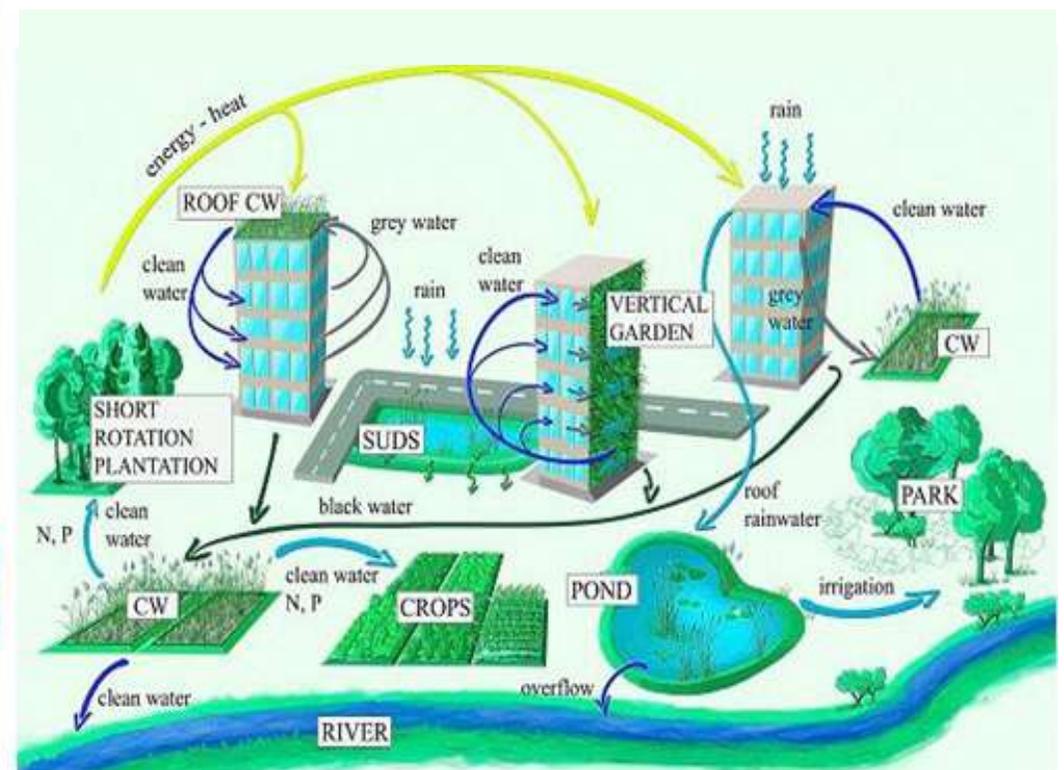


By changing our thinking from a linear economic modal to a circular one, built environment professionals can facilitate connecting waste products and processes in the city.

Make the Linear, Circular



Green - blue as part of the circular city



Biodiversity Net Gain

A photograph of a modern park or urban landscape. In the foreground, a wooden walkway with a metal railing spans across a stream. The stream has concrete steps leading into it. The background features a large, multi-story apartment building, a tall metal windmill structure, and various green plants and trees. The sky is blue with some clouds. The text "Biodiversity Net Gain" is overlaid in the center of the image.

BNG should be a consideration in place-making, the design of green infrastructure, managing the impacts of climate change, and increasing well-being.

Get an Ecologist involved from very early stages of design.

Get surveys in place before masterplanning work starts.

Think beyond the redline of the site - off site provision.

Revise masterplan in response to the initial calculation (post-development biodiversity units) and test subsequent iterations of the masterplan.

Create a robust management plan to ensure BNG is sustained.

Thank you

Savills Urban Design

