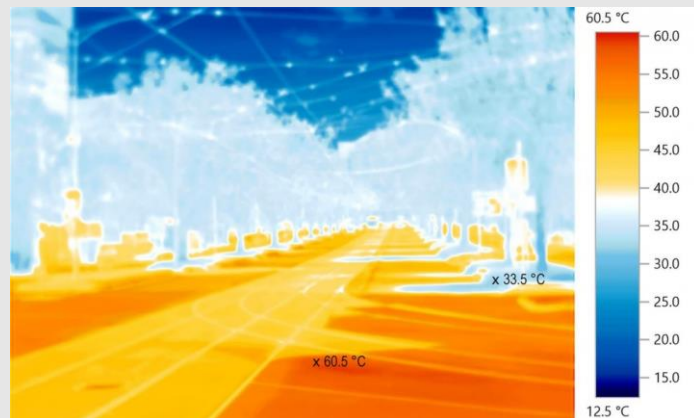


# COOL TOWNS

**Interreg**   
EUROPEAN UNION  
**2 Seas Mers Zeeën**  
European Regional Development Fund

# Blue & Green Infrastructure as a mitigation measure for heat stress

Dr Debbie Bartlett  
University of Greenwich, UK

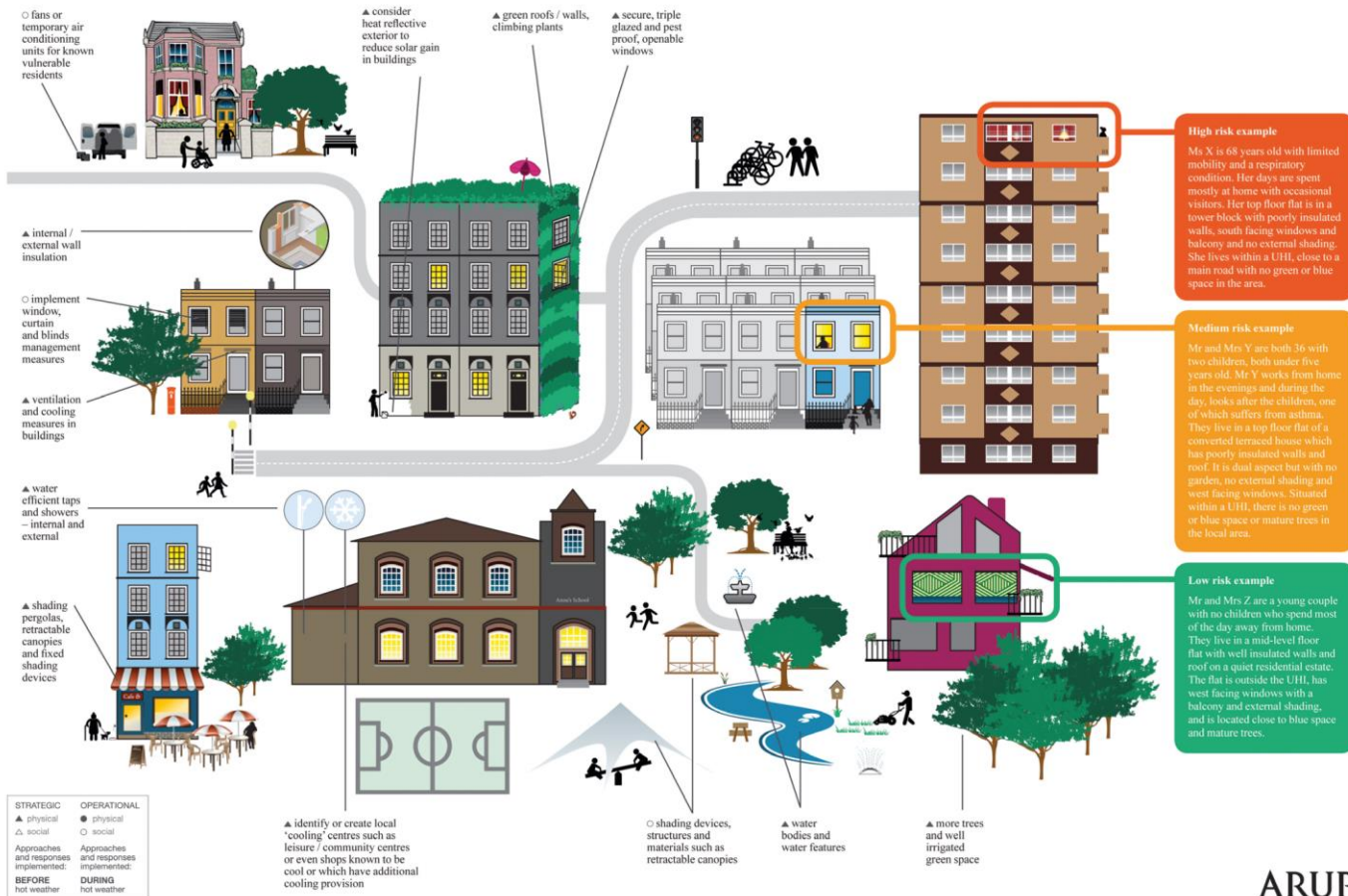




**Built environment**

**Lack of air movement**

**people experiencing discomfort  
In  
public open space**



### Reducing incident radiation

- Shade
- Reflecting radiation

### Reducing conductivity

- Light colour
- Texture

## Cooling the microclimate

### Perception of coolness

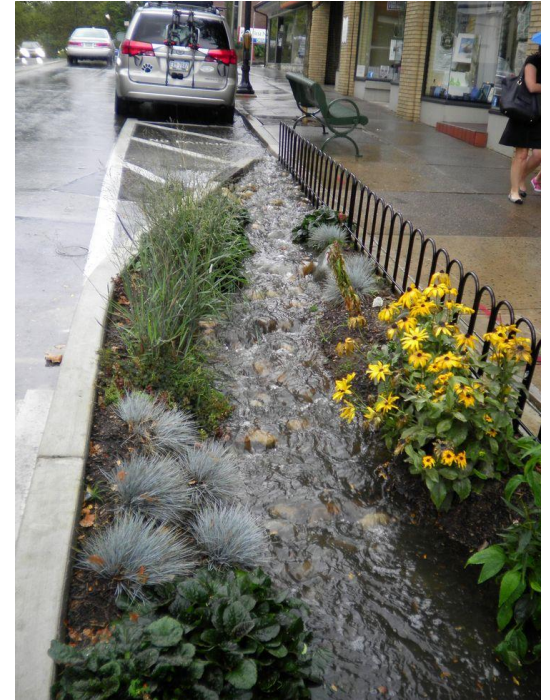
- Fluttering material
- Movement of water
- Rustling of leaves

### Evaporation

- Water feature
- Misting/spraying on surfaces
- Vegetation

### Air movement

## Blue & green infrastructure



## Which intervention is most suitable?



# Each situation is different

Interventions all have

- Benefits for the microclimate
- Disbenefits
- Co (additional) benefits

Understanding these helps make decisions



# Tree planting



Effectiveness depends on:

- Foliage shape and dimensions
- Leaf area density
- Seasonal cycle
- Daily transpiration

For shade:

- Height of trunk
- Canopy spread

Benefits

Evapo-transpiration cooling  
Shade

Disbenefits

maintenance – watering  
time to grow  
clearing fallen leaves

Co-benefits

aesthetics  
recreation, relaxing, health,  
air quality  
biodiversity

# Green Walls and Facades



## Benefits

Evapo-transpiration cooling  
Reduces effect of building material

## Disbenefits

maintenance watering, trimming  
installation costs

## Co-benefits

insulation – internal cooling  
aesthetics  
air quality  
biodiversity

# Swales and Rain Gardens



## Benefits

Evapo-transpiration cooling

## Disbenefits

maintenance - trimming  
may collect litter

## Co-benefits

flood mitigation  
aesthetics  
recreation, relaxing, health,  
biodiversity - pollinators

# Water features



Benefits

Evapo-transpiration cooling  
physical cooling (contact)

Disbenefits

zoonoses (contact)  
safety

Co-benefits

aesthetics  
biodiversity



# So how do you decide?



