

Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

Biodiversity
Rewilding
Regreening

Noise / smell / exposure
Particulates / toxins
CO₂

Public participation
Co-design
Well-being
Contact with nature

Heat island effects Flooding / freezing

Bild: Helix Pflanzen



**PLANNING NATURE-BASED
SOLUTIONS IN CITIES**
MARCH 15TH-18TH 2021

Marcus Collier,
Trinity College Dublin

EC DEFINITION OF NATURE-BASED SOLUTIONS

"Solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions."

- "multiple benefits for biodiversity"
- "approaches that do not improve biodiversity, or not based or delivering on a range of ecosystem services, are not nature-based solutions!"

Faivre, N., Fritz, M., Freitas, T., de Boissezon, B., Vandewoestijne, S., 2017, Nature-Based Solutions in the EU: innovating with nature to address social, economic and environmental challenges, *Environmental Research* 159:509-518. doi: <https://doi.org/10.1016/j.envres.2017.08.032>

WHAT DO NATURE-BASED SOLUTIONS LOOK LIKE?



Co-benefits



Photos: Marcus Collier and Hans Müller

EXISTING / 'LEGACY' NATURE-BASED SOLUTIONS

Street trees / parks etc.

- Discovering existing and emerging values of green spaces
- City-makers have always included parks / trees
 - Industrial revolution
- More apartment living increases demand for and use of green spaces (parks, pitches, allotments...)
- New communities use green spaces for differing reasons
- Increasing focus on health / well-being and children / elderly
- **Socially prescribed nature-based solutions**

MODERN NATURE-BASED SOLUTIONS

Example: living roofs / walls / raingardens (SUDS) etc.

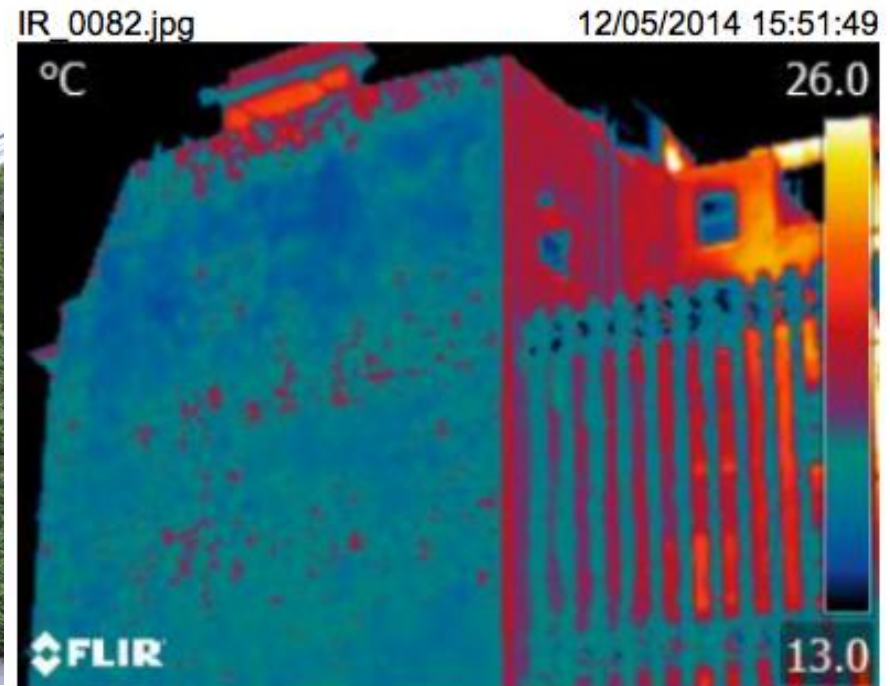
- Wasted resources in cities / increase stormwater run-off
- Plants can help building to adapt to climate change effects
 - Absorb rainwater / flood risk reduction
 - Insulation from heat and cold
 - Habitat creation
 - Improve air quality / sound absorption (esp. walls)
- Increase amenity space (esp. roofs)
- Increase lifespan of the roof / wall itself
- Reduce energy consumption in buildings





Bio-solar roof



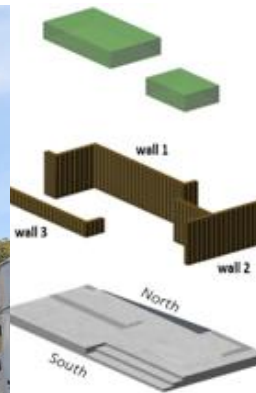


MOVING INDOORS









NATURE-BASED SOLUTIONS - ISSUES



IMPACT MEASUREMENT / EFFICACY
/ MONITORING / STAKEHOLDER
PERCEPTIONS



MAINSTREAMING INTO URBAN
PLANNING / DERIVING
MAXIMUM CO-BENEFITS



SDGS ARE NOT FULLY
INTEGRATED INTO NATURE-BASED
SOLUTION THINKING



NATURE-BASED SOLUTIONS
INCORPORATION INTO CITY-
MAKING AND SILO THINKING



HOW BIODIVERSITY MAY BE
INCORPORATED INTO NATURE-BASED
SOLUTION THINKING



FUTURE OPPORTUNITIES FOR CO-
CREATING NATURE-BASED
SOLUTIONS



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Thank you

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