

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

CIEEM
WHAT ARE NATURE-BASED SOLUTIONS
& WHY ARE THEY IMPORTANT?

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WHAT ARE NATURE-BASED SOLUTIONS?

Nature-based solutions are “actions to protect, sustainably manage and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well-being and biodiversity benefits. They are underpinned by benefits that flow from healthy ecosystems and target major challenges like climate change, disaster risk reduction, food and water security, health and are critical to economic development”. [IUCN](#)

Nature-based solutions are “inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience”. [European Commission](#)

- “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!”
- Circular economy / nature-based economy



‘LEGACY’ NATURE-BASED SOLUTIONS





RESTORATION AS A NATURE-BASED SOLUTION



Rewetting peatlands as a nature-based solution



REWILDING AS A NATURE-BASED SOLUTION



‘LEGACY’ NATURE-BASED SOLUTIONS

Hedgerows / coppice / tree planting etc.

- Discovering existing and emerging values of green spaces
- Over time co-benefits increase
- Give rise to innovations

Parks / street trees etc.

- Increased urbanisation
- Communities use green spaces differently
- Increasing focus on health / well-being and children / elderly - COVID19

NEW 'URBAN' NATURE-BASED SOLUTIONS

Living roofs / living walls / raingardens & constructed wetlands (SUDS) etc.

- Underused spaces in cities / increase stormwater run-off
- Plants can help building to adapt to climate change effects
 - Attenuate rainwater / flood risk reduction
 - Insulation from heat and cold: reduce energy consumption
 - Habitat creation / Carbon sink
 - Improve environmental quality: attenuate particulates / noise (esp. walls)
- Increase amenity space (esp. roofs)
- Increase lifespan of the structure
- Health and well-being (re: COVID19)
- **Co-benefits: socially prescribed nature-based solutions**

‘GREEN’ / SEDUM ROOF



Pre-planted modules
for instant use

100% recycled material

Self-maintaining:
rainfall provides all
water needs

Easy fit

Absorbs airborne
particulates

Helps extend roof life,
e.g. by providing UV
protection

Effective SUDS control thanks
to rainwater attenuation



DIVERSE USE ROOF



INNOVATING



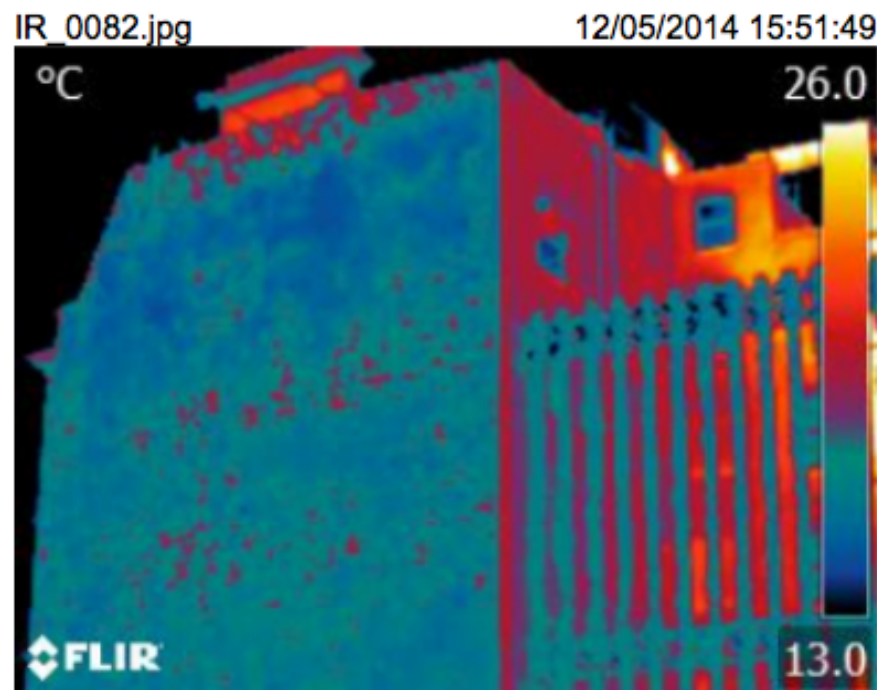
COMBINING TECHNOLOGIES



Bio-solar roof



LIVING WALLS



MORE DIVERSITY



MOVING INDOORS



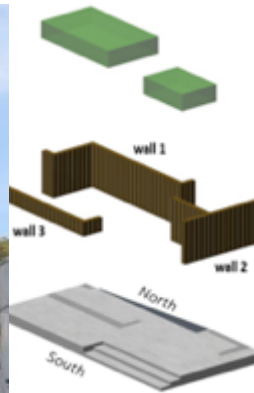
BIOSWALES



ATTENUATION



INNOVATION / ENGAGEMENT



CO-BENEFITS OF NATURE-BASED SOLUTIONS



Co-benefits

NATURE-BASED SOLUTIONS - ISSUES



IMPACT MEASUREMENT / EFFICACY
/ MONITORING / STAKEHOLDER
PERCEPTIONS



MAINSTREAMING INTO
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

WHY ARE NATURE-BASED SOLUTIONS IMPORTANT?

- Opportunity and business case for greening / rewilding / restoring
- Provide ecosystem services and increase biodiversity
- Viable, effective and validated nature-based technology
- Co-benefits that appreciate over time
- Innovation (e.g. <https://connectingnature.eu/innovations>)
- Drive the nature-based economy (nature-based enterprises)
- Solutions to wider societal issues ([Sarajevo Process](#))



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Thank you



Nature-based solution projects (2017-2024): >600 partners : >190 cities : >€300m

Horizon 2020 Actions

- [Connecting Nature](#)
- [UNaLab](#)
- [UrbanGreenUp](#)
- [GrowGreen](#)
- [ProGfreg](#) (regeneration)
- [PHUSICOS](#) (mountains)
- [URBINAT](#) (regeneration)
- [Reconnect](#) (rural / water)
- [Operandum](#) (hydrology)
- [Nature4Cities](#) (platform)
- [CLEARINGHOUSE](#) (EFI)
- [RUGGEDISED](#) (lighthouse)
- [ReGreen](#) (labs)
- [EdiCitNet](#)
- [CleverCities](#)

EC Cluster Taskforces

1. Knowledge/data
2. Impact/evaluation
3. Business/finance
4. Communication
5. Hydrology?
6. Co-creation/governance
7. Global?

- [FutureMARES](#) (Marine)
- [Ponderful](#) (ponds as NBS)
- [MacOBioS](#) (coastal)
- [CONEXUS](#)
- [INTERLACE](#)
- [EuPOLIS](#)
- [GOGREEN ROUTES](#)
- [IN-HABIT](#)
- [VARCITIES](#)

- [ReNature](#) (CSA) Malta
- [Eklipe](#) CSA (policy)
- [BiodivERsA](#) ERA-NET (cofund)
- [NaturVation](#) R&I (atlas) completed
- [NAIAD](#) R&I (insurance) completed
- [NetworkNature](#) CSA
- [WeValueNature](#) (CSA nat. cap.)

Other

- [ACTonNBS](#) (Climate KIC)
- [Encore](#) (nat. cap)
- [UrbanGaia](#) (Ecosystem services)
- [Oxford](#) (policy platform)
- [Natura](#) (network of networks) NSF
- [Building with Nature](#) (design)
- [Viva Plan](#) (Nordic)
- [Circular City](#) (COST)
- [ENVISION](#) & [VIVA PLAN](#)