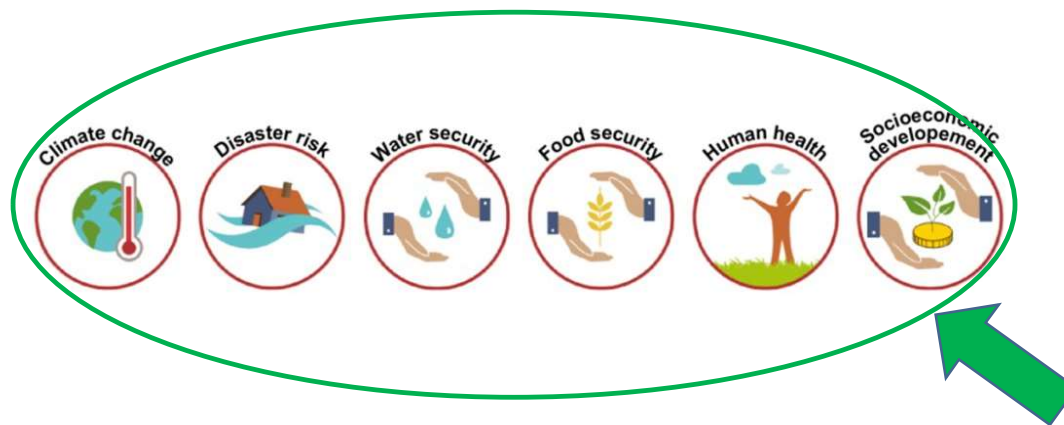


A perspective on EIA's role and enabling Nature-based Solutions (NbS)

Elana Bader and Kenny Taylor, NatureScot

Nature-based Solutions

An umbrella concept covering a range of ecosystem-based approaches that address specific or multiple **societal challenges**, while simultaneously providing human well-being and biodiversity benefits.



What are societal challenges?

1. Climate resilience
2. Water management
3. Natural and climate hazards
4. Greenspace management
5. Biodiversity
6. Air quality
7. Place regeneration
8. Knowledge and social capacity-building for sustainable urban transformation
9. Participatory planning and governance
10. Social justice and social cohesion
11. Health and well-being
12. New economic opportunities and green jobs

Urban NbS in practice

NatureScot Green Infrastructure Fund:

- £15m Eur. Reg. Dev. Fund match, total £40m+
- 14 capital infrastructure projects
- 20% SIMD deprivation
- 10k+ population
- Vacant & Derelict Land
- Outcomes, multi-functionality
- Community engagement
- Legacy



Outcomes

Nature, biodiversity and ecosystems

Environmental quality, flooding and climate change

Involving communities and increasing participation

Increasing place attractiveness and competitiveness

Improving health and wellbeing





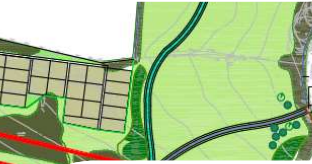
are been identified
-rarity garden.



Allot
funds
FE



Entry, timber
steps and
estate fencing
with cast iron
feature posts.
Replace existing fence with
estate fencing.



Feature entry
and walling.



spots within level
ing green.



Principles for delivering urban NbS – UK Green Building Council

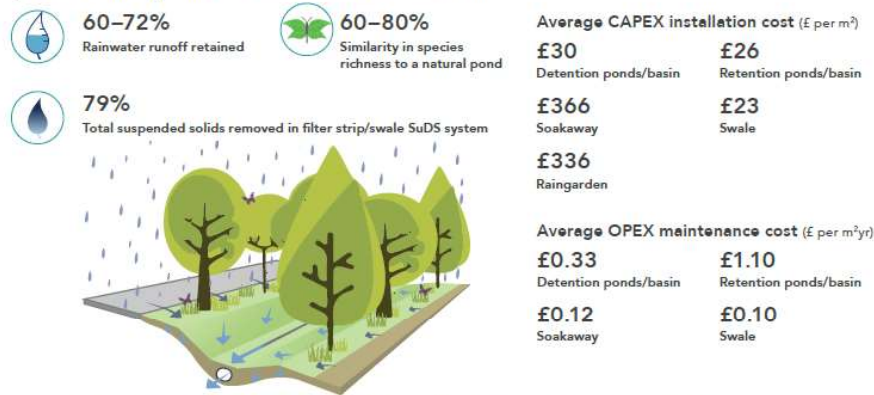
	PRINCIPLE 1: Define ambitions	1.1: Adopt UKGBC's NBS ambition 1.2: Align with the UN Sustainable Development Goals 1.3: Set targets for climate adaptation and environmental improvement
	PRINCIPLE 2: Assess risks, baselines, and impacts	2.1: Assess and disclose climate-related risks 2.2: Assess and disclose nature-related risks 2.3: Measure the changes in biodiversity 2.4: Assess the function of ecosystem services 2.5: Enable a natural capital approach 2.6: Assess the functionality of NBS 2.7: Assess the quality of NBS
	PRINCIPLE 3: Maximise multifunctionality	3.1: Understand the multiple benefits of NBS 3.2: Create interconnected habitats 3.3: Maximise appropriate habitat variety 3.4: Create multifunctional NBS 3.5: Make NBS accessible
	PRINCIPLE 4: Identify value, costs, benefits, and funding	4.1: Incorporate NBS into CAPEX and OPEX at the outset 4.2: Assess the value of ecosystem services and natural capital 4.3: Assess the full value profile of developments 4.4: Use evidence bases to enhance investor confidence 4.5: Use innovative funding streams 4.6: Unlock capital through green finance 4.7: Use crowdfunding approaches to generate capital 4.8: Utilise the new market for biodiversity net gain
	PRINCIPLE 5: Create long-term management plans	5.1: Run maintenance volunteer schemes 5.2: Use a long-term stewardship model for habitat management 5.3: Monitor and evaluate NBS interventions
	PRINCIPLE 6: Collaborate, educate, and innovate	6.1: Establish relationships with suitable partners 6.2 Engage the local community 6.3: Share resources and lessons learnt 6.4: Utilise internal communications channels 6.5: Use external training courses and workshops 6.6: Engage with industry-wide research and innovation efforts

Headline findings

The following illustrations provide a summary and comparison of the headline findings* for each of the NBS researched.
 * Average cost data taken from IGNITION project cost collation database, containing technical reports and supplier information

Sustainable drainage system (SuDS)

The management of surface water runoff within the urban environment to mimic the natural drainage processes, while supporting broader biodiversity and amenity aims



Common alternative terms: Drainage systems, natural drainage systems, Water Sensitive Urban Design (WSuDS)

Street trees

Trees located next to or within a public road



SuDS-enabled street trees

Street trees combined with a sustainable drainage system

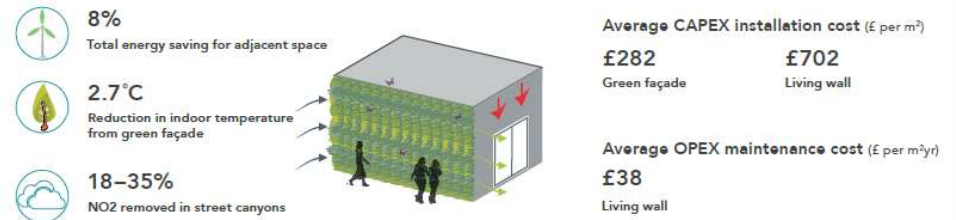
Green roof

Vegetation growing on any structure's horizontal surface



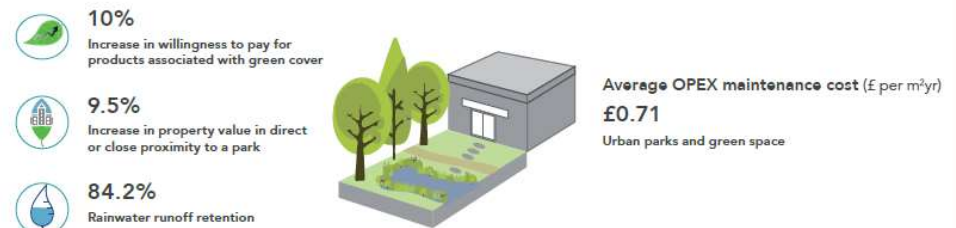
Green wall

Vegetation growing on or against a vertical surface



Urban parks and green space

Areas that are naturally or artificially covered with vegetation (e.g. grass, bushes or trees). Can range from playing fields and highly maintained environments to relatively natural landscapes



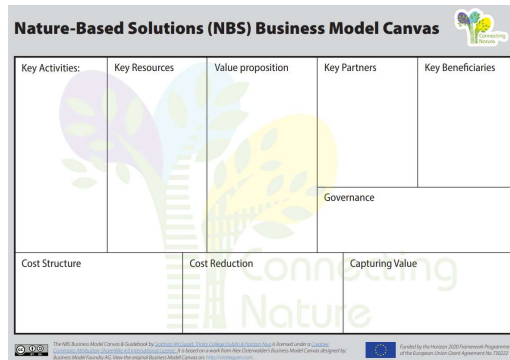
Common alternative terms: Urban parks, urban green cover, amenity grassland and sports pitches

NbS & planners

A single framework:

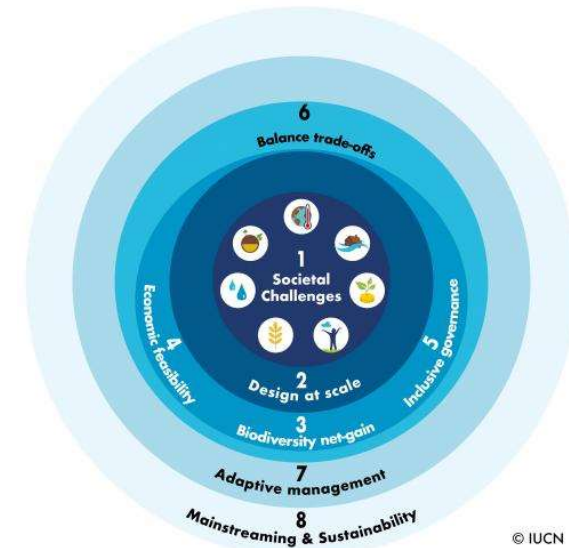
1. Integration of solutions (e.g. grey infrastructure, public awareness tools) - allows broader range of social and environmental benefits through targeted but connected interventions, help remove barriers between existing frameworks. Role as a tool for sustainable development based on healthy ecosystems.
2. Landscape-scale planning is critical to success. Short-term benefits may be lost if external threats continue to degrade the site.
3. Focus on coordinated efforts that integrates NbS in policy and actions and addresses the complex interactions between ecological, social, legal, institutional and political systems that transcend site-level approaches. Ensures that global societal challenges are addressed at the scale of the problem and promote policy coherence vs piecemeal projects.

Tools, Standards, Accreditation



Tool: NbS Business Model Canvas

Standard: IUCN Global Standards for NbS



Accreditation: Building with Nature



Meadowbank, City of Edinburgh Council

EIA's role in enabling Nature-based Solutions

- EIA – Assessing the environmental significance of changing the physical characteristics of a site – equal / better capacity to tolerate climate change and host habitats / species – NbS should be leading the way
- EIA - procedural directive / principles meshing with the principles of NbS (IUCN work)
- EIA Regs – working as a design tool to demonstrate positive impacts not a tick box exercise of avoiding negative impacts
 - Screening EIA in and out of NbS projects – ground truthing options / natural mitigation

A comparison of NbS and EIA

NbS

Compared to technology-based solutions to climate challenges, nature-based solutions are often more cost-effective, longer lasting, and have multiple synergistic benefits including:

1. Reducing net emissions and Expanding carbon sinks
2. Providing habitats for biodiversity
3. Benefiting human health and well-being
4. Helping our society and economy adapt to climate change
5. Making more resilient and nicer places to live and work

EIA

The environmental impact assessment must identify, describe and assess in an appropriate manner, in light of the circumstances relating to the proposed development, the direct and indirect significant effects of the proposed development on the factors below:

1. Climate
2. biodiversity, land, soil, water, air
3. population and human health;
4. expected effects deriving from the vulnerability of the development to risks, so far as relevant to the development, of major accidents and disasters.
5. material assets, cultural heritage and the landscape.



EIA

gathering information;
 describing a development or project;
 predicting the effects;
 defining positive and negative effects;
 publicising the project, so that the public can play an effective part in the decision making process;
 consulting specific bodies;
 deciding as part of the decision making process;
 ensuring that the measures prescribed are implemented and monitored.
 Use the ER and assoc. management plans to react to changes

NBS

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Questions?

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