Concept and science of Nature-based Solutions: Unlocking its potential to address climate change
UNFCCC Standing Committee on Finance Forum on Financing Nature-based Solutions

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What are Nature-based Solutions (NbS)?

Nature-based solutions are: “actions to protect, sustainably manage and restore natural or modified ecosystems, that address societal challenges (e.g. climate change, food and water security or natural disasters) effectively and adaptively, simultaneously providing human well-being and biodiversity benefits”

- Unanimously adopted by 1,400+ IUCN members (states, government agencies, international/national NGOs and IPOs)
- Represents the most widely-used definition globally
- Cited by IPCC and IPBES in 2021
- Cited in 2000+ peer reviewed articles in recent years
NbS for Climate Change Mitigation

THREE STEPS TO NATURAL COOLING
Protect intact ecosystems, manage working lands and restore native cover to avoid emissions and enhance carbon sinks.

Nature-based solutions could save 10 gigatonnes of carbon dioxide equivalent per year

- Avoided emissions 5 Gt CO₂ yr⁻¹
- Enhanced sinks 5 Gt CO₂ yr⁻¹

PROTECT
Forests, grasslands and more

MANAGE
Land for crops, grazing and timber

RESTORE
Forests, wetlands and more

THE LONG GAME
Nature-based solutions (NBS) could reduce the global peak temperature and suppress warming beyond 2100 — if they are ambitious and designed for longevity.

Estimated stylized pathways

Global warming (°C) relative to 1850-1900

Trajectories
- 2.0°C without NBS
- 2.0°C with NBS
- 1.5°C without NBS
- 1.5°C with NBS

Current trajectory: 3°C by 2100

Anthropogenic warming and likely range

NBS reduce the peak of 1.5°C trajectory by 0.1°C
NBS reduce the peak of 2°C trajectory by 0.3°C

NbS for Climate Change Adaptation

Mangroves → Coastal Resilience

• Mangroves provide over $65 billion in flood protection, and safeguard 15 million people against flooding per annum¹

• Of all the world’s ecosystems, mangroves are the most effective per unit area at trapping and storing carbon²

Green spaces → Urban Resilience

• Green spaces absorb storm water run-off, reduce urban heat-island effect, and lower drought impacts and remove carbon

• Sponge City – Xiamen, China

• Green Cities, Clean Waters – Philadelphia, USA

Growing policy uptake and recognition of NbS
Established best practice for NbS implementation

IUCN Global Standard for NbS™

Underpinned by four operational caveats

01 CUT EMISSIONS
02 CONSERVE & PROTECT EXISTING ECOSYSTEMS
03 BE SOCIALLY RESPONSIBLE
04 BE ECOLOGICALLY RESPONSIBLE
The IUCN Global Standard for NbS™

- **Societal challenges**
- **Design at scale**
- **Biodiversity net gain**
- **Economic feasibility**
- **Inclusive governance**
- **Balance trade-offs**
- **Adaptive management**
- **Mainstreaming for sustainability**

**Key Features**

- **8 Criteria and 28 Indicators** for designing (new) and assessing (existing/past) NbS
- Measured against **calibrated metrics**
- Developed with **+800 contributors** and **9 expert groups** through **2 years of public consultations**
- **Facilitative standard** to support transitioning to NbS
- Piloted across **Asia, Africa, Latin America**, and parts of **Europe**
- Translated by partners into **7 languages** so far
Assurance with 3rd Party Certification by 2022

IUCN to develop collaborative certification scheme for Nature-based Solutions

Marseille, France, 2021 (IUCN) – At the 2021 World Conservation Congress, IUCN unveiled a plan to develop a collaborative certification system to ensure that the changes resulting from Nature-based Solutions for Societal Challenges (NbS) are truly sustainable.

Partnerships
- Delivery through existing, accredited, schemes
- Currently six partners on board for development phase: Forest Stewardship Council, Gold Standard, Initiative for Responsible Mining Assurance, FairTrade International, Global Sustainable Tourism Council

Priorities
- A seamless monitoring, evaluation and auditing process with recognised partner schemes
- Accelerating uptake of NbS through leveraging growing interests in private sector markets and finance
- High quality and responsive technical services through the IUCN Global Facility for NbS
NbS Global Facility

Develop
- Investment screening tools
- NbS assurance and certification

Design
- Shaping public sector investments
- Private sector pipeline development

Accelerate
- Facilitating mobilisation of public funds (inc. GEF & GCF)
- Catalytic & de-risking investments for private sector action

Finance Catalyst
Knowledge and Innovation Hub
Policy Enabler

EU Taxonomy Regulations
ADB WWF IUCN
Several financing vehicles available for NbS

- Enhanced & innovative public sector financing – including repurposing of negative subsidies
- Innovation in restructuring and management of national debt
- De-risked private sector investments through blended finance arrangements
- Inclusive financing – increasing access to fair & competitive lines of credits for farmers & rural communities
Concluding comments

• The concept and science of Nature-based Solutions is clear, well established and builds upon 20 years of experience

• A widely accepted NbS definition and best practice exists and regularly used, including by many governments and private sector

• Several innovative finance models already established and piloted – the challenge now is to scale them up
Thank you for your attention

For more information:

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