Nature-based Solutions for Net Zero Transition

TERRACON
Nature-based Solutions

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Unlocking the Power of Nature – The Original Climate Technology

"Imagine a technology that can remove carbon, cool cities, produce food, reduce floods and restore biodiversity. It already exists.

It is called "Nature"

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In our race to net zero, we have leaned heavily on engineered solutions. Probably rightly so.

However, we are missing a critical piece here….

Nature based Solutions (NbS) – forests, wetlands, mangroves, regenerative agriculture etc. have become indispensable tools in achieving climate goals, sustainably and equitably.

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Why NbS are crucial in the Net Zero Journey?

- Natural ecosystems are responsible for 12-14 gigatons of CO_2 sequestration per year, almost a third of what is needed globally to meet the Paris Agreement
- NbS simultaneously addresses multiple SDGs such as clean water, biodiversity, health, disaster resilience, rural employment / livelihood etc.
- According to UNEP, NbS can deliver over one-third of cost-effective climate mitigation needed by 2030.
- Nature enhances climate resilience, builds a safety net for communities and ecosystems.

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NbS is Preferred over Engineering Solutions

- It is 'Sustainable'
- It is 'Economical'
- It is 'Equitable'
- It is 'Inclusive"

All multilateral agencies, governments and civil society have been advocating using 'NbS' due to the multiple co-benefits it generates.

Example: Transformation of Kallang River at Bishan-Ang Mo Kio Park

- Multiple objective achieved
- Bank stabilization and protection
- Water quality enhancement
- Reservoirs of biodiversity
- Recreation and tourism

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Global Risks identified by WEF

(through a survey of over 1000 stakeholders from a network of academia, business, government, civil society and thought leaders every year)

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Severity of Global Risks in 2025

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Global Risks	NbS Solutions	e.g.
Extreme Weather Events	Climate change mitigation and adaptation	Climate resilient agricultural practice, Agroforestry
Biodiversity loss and Ecosystem collapse	Ecosystem restoration, habitat protection	Wetland conservation, Wildlife corridors management
Critical Earth system changes	Climate change mitigation strategies, offset mechanisms	Carbon sequestration, Reforestation
Natural Resource crisis	Sustainable land/water use via NbS	Wetland restoration & Ecological Restoration of lands
Livelihood vulnerabilities	Nature based livelihood	Community agroforestry
Pollution	Green buffers, phytoremediation	Urban green belts, constructed wetlands

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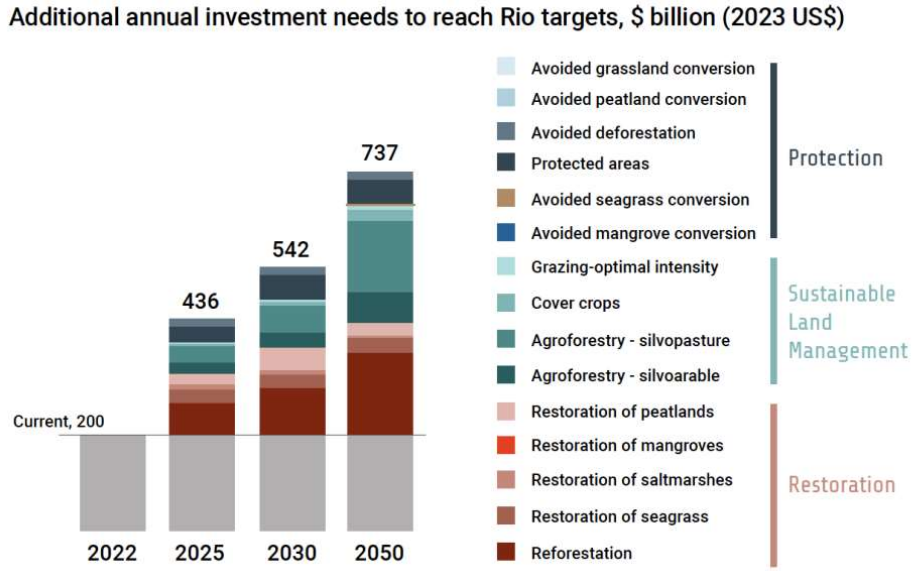

UNEP estimates that annual investment in NbS must almost triple to $542 billion by 2030, from $200 billion today, to reach the Rio Targets, including limiting global warming to 1.5°C in line with the Paris Agreement (UNEP, 2022a).

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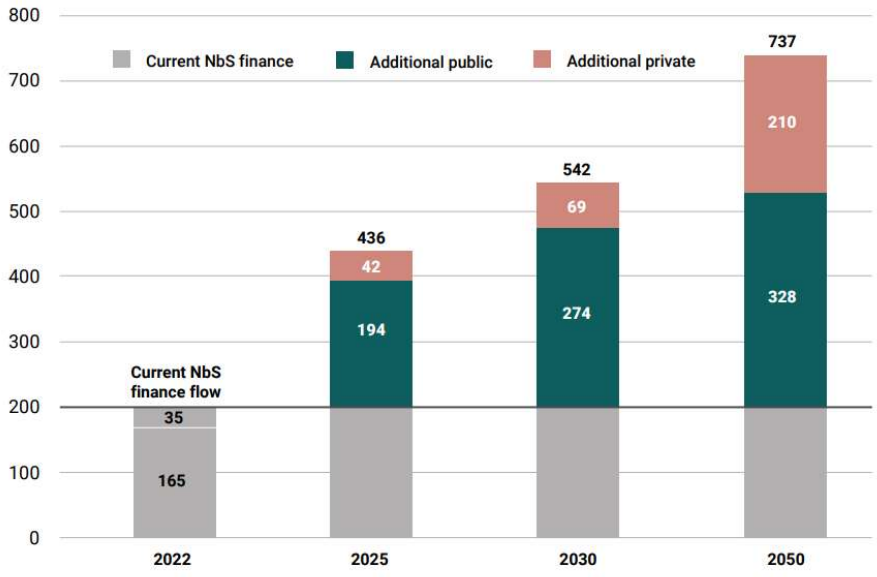

Additional NbS investment needed from Public and private source

Source: State finance nature 2023

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Terracon's contribution to Nature-based Carbon Solution for Net Zero transition

CARBON PROJECT DEVELOPMENT AFOLU, ENERGY AND WASTE HANDLING AND DISPOSAL

CARBON FOOTPRINTING AND BASELINE ASSESSMENT

SUPPORT IN POLICY, REPORTING AND DISCLOSURE

Compliance, Navigation, Issuance and trading support

MRV (Monitoring, Reporting, Verification), and impact tracking.

Our Assessment Aligns With Global Standards and Frameworks

Aligned with IPCC Guidelines | Aligned with CDM Framework | Aligned with SBTi Targets | Aligned with GHG Protocol | Aligned with ISO 14064

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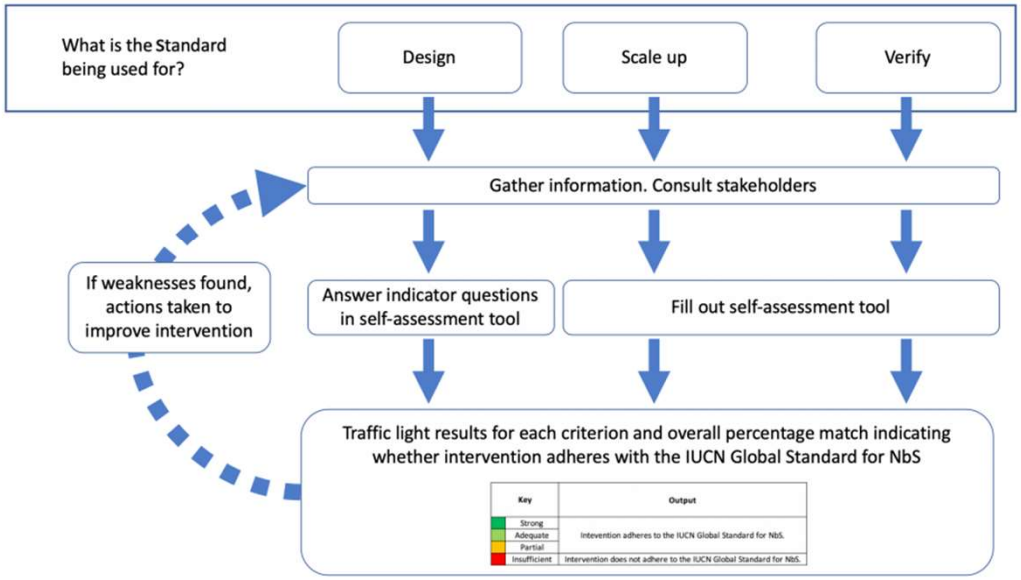
Terracon provides end-to-end consulting services to **assess, validate, and classify** NbS projects using IUCN's robust framework, ensuring compliance, credibility, and performance.



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Standards	Societal challenges			Design at Scale			Biodiversity net-gain				Economic feasibility				Inclusive governance					Balance tradeoffs			Adaptive management			Mainstreaming and Sustainability		
Indicators	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28

Score	Adherence to Indicator
1	Insufficient
2	Partial
3	Adequate
4	Strong

Key (%)		Output (Adherence to overall standard)
≥75	Strong	Intervention adheres to the IUCN Global Standard for NbS.
≥50 & <75	Adequate	
≥25 & <50	Partial	
<25	Insufficient	Intervention does not adhere to the IUCN Global Standard for NbS.

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NbS Principles for Net Zero Journey

- NbS investments or initiatives are desired to achieve 'Societal' Net Zero
- Climate and Nature Crisis are interconnected and cannot be treated in silos. Hence applying NbS also helps solve the Climate crisis in many ways
- Almost all NbS activities help solve climate crisis in terms of providing carbon sinks, soil enrichment, blue carbon benefit, improved air recycling etc….creating natural capital
- As per SBTi guidelines, Residual Emissions should be set off with carbon removal or NbS projects
- Considering the urgency of the climate crisis, SBTi also recommends spending and allocating additional funds for above and beyond SBTi targets to generate multiple co-benefits

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Case Study: Nestle (Global)

- Target: Removing 13 million tonnes of CO_2 from the atmosphere by 2030
  - Plant vegetation around water resources and wildlife corridors
  - Integrate trees into grazing land in a synergistic way
  - Use local compost
  - Switch to organic fertilizers wherever possible
  - Adopt more sustainable agriculture practices
  - Plan trees and shrubs to create natural protection
  - Shade management agroforestry
  - Restoring forests and peatlands

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Case Study: Tata Steel (Tata Group)

- "Project Aalingana": A project name derived from Sanskrit meaning "Embrace"
- The project symbolises integrated vision for environmental restoration and biodiversity enhancement
- Community centric ecological restoration, water conservation & water circularity projects have been implemented
- All units, manufacturing and mining, have been asked to prepare Biodiversity Management Plans (BMPs) to move towards Nature positive impact across all its operations.
- Commitment to invest in NbS projects for bringing larger good to the Society, benefit communities and enhance ecology.

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Who are we?

TERRACON
Nature-based Solutions

TERRACON ECOTECH *is a 16-years young Nature-based Solutions (NbS) company that has been working with Industry, Governments and Urban Local Bodies (ULBs) to collect, collate, analyse and strategize the environmental / ecological data for creating a cleaner, greener and healthier planet by preparing management plans and executing NbS projects*

- 250+ Projects
- 100+ Clients
- 20 million+ trees enumerated / censused
- 3 Lakh+ Trees & Mangroves planted
- India's first City Biodiversity Index & LBSAP
- 120+ Biodiversity Management Plans till date
- Partnered with WWF & IUCN
- All India footprint - Worked in 22 States & 4 UTs
- NABET / QCI accredited category 'A' company

- Worked with PSUs: GAIL, HPCL, BPCL, EIL, RCF, SJVN, IGGL, MECON & OIL
- Worked with corporate houses: Tata Group, Adani, Mahindra, JSW, Vedanta, Aditya Birla, Lodha, Brookfield, JK, Godrej, D S Group etc.
- State Governments: Maharashtra, Assam, Nagaland, Rajasthan, Gujarat, Odisha, Karnataka, Kerala
- Cities: Nagpur, New Delhi, Nashik, Pimpri-Chinchwad, Thane, Mira-Bhayander, Vasai-Virar, Pune, Kolhapur, Lonavala, Igatpuri, Satara, Igatpuri, Kota, Jhalawar etc.

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Thank You...

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