

Infrastructure in the Global Biodiversity Framework

The Opportunity to Jointly Address the Worsening Biodiversity and Climate Crises

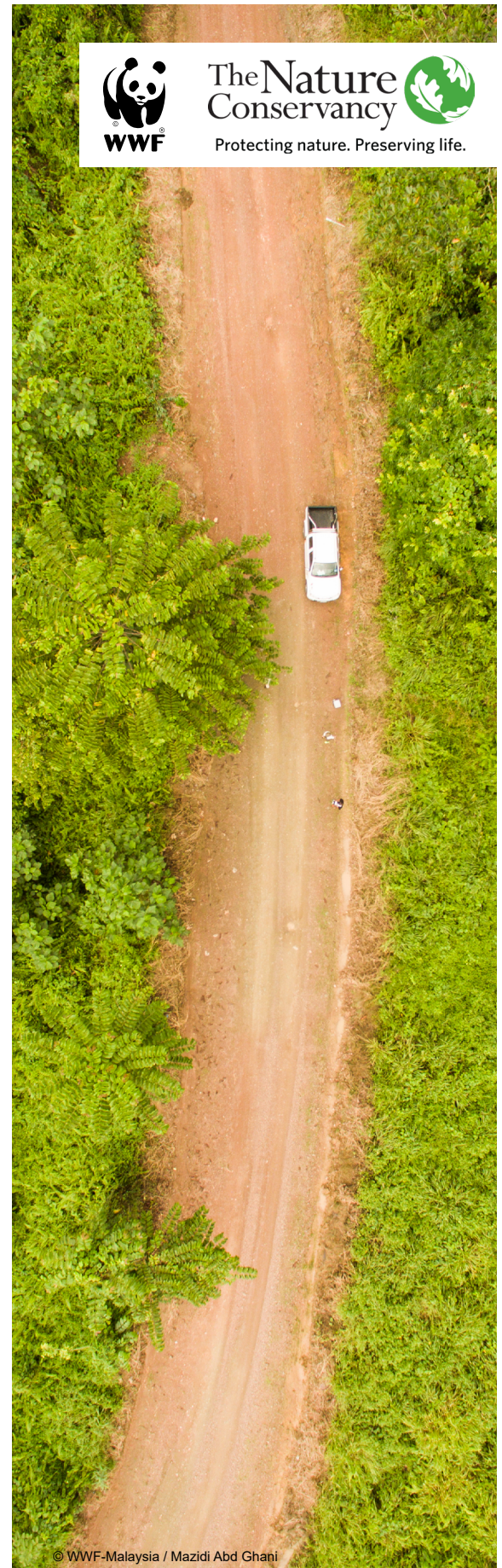
For years, scientists have been warning of the dire threats posed by the twin crises of rapid biodiversity loss and rising greenhouse gas emissions. “Biodiversity is declining faster than at any time in human history,” the 2021 Dasgupta Review starkly states.ⁱ WWF’s 2022 Living Planet Index further evinces this, showing massive declines in species populations since 1970: 69% across all biomes and even more staggering drops in some regions, including a 94% decrease in Latin America and the Caribbean. Global scientific consensus now suggests that more than a million species are at risk of extinction, many within decades.ⁱⁱ

In this same time span, more infrastructure will be built than at any other time in history, with 75% of the infrastructure expected to exist by 2050 not yet built.ⁱⁱⁱ This means the world will put in place an enormous amount of new infrastructure in the next 15 years and beyond, resulting in significant impacts on nature, climate, and people.^{iv}

Infrastructure development is critically important for implementing the Sustainable Development Goals, including securing the necessary transformation to renewable energy. It will, however, continue to come at a great cost to the planet without significant changes to current practice. Infrastructure is one of the main drivers of biodiversity loss—for example, 95% of deforestation in the Brazilian Amazon is within 5 kilometers of a road.^v Infrastructure is also responsible for the vast majority (79%) of greenhouse gas emissions globally.^{vi}

At the same time, engineered infrastructure and natural systems are mutually dependent: Nature provides critical ecosystem services, and engineered infrastructure is reliant on nature to reduce risks and foster multiple benefits. Forested hillsides or coastal mangroves, for example, are essential to protect roads from erosion. **The impacts of climate change and biodiversity loss are mutually reinforcing. This is also true of the solutions to these intertwined challenges.** In an era of planetary boundaries and ever-increasing demands from numerous sectors on limited space and resources, **effectively addressing both crises requires tackling them jointly.**

The infrastructure sector can play a critical role in synergizing these two agendas, delivering net-zero and nature-positive outcomes. An integrated approach embedded in deliberate policy-making that aligns all aspects of the infrastructure development cycle with national and global climate goals and biodiversity targets is needed. Several global initiatives—such as the [G20 Principles for Quality Infrastructure Investment](#), [FAST-Infra](#), and [Global Infrastructure Basel Standard for Sustainable and Resilient](#)



[Infrastructure \(SuRe®\)](#)—have begun to move multiple infrastructure subsectors in this direction in recent years, but they have not been enough to tackle the scale of these simultaneous and growing crises.

While the science is clear about the direct connections between climate change and biodiversity loss, in practice, both issues are still addressed in silos.

The current international negotiations on the global biodiversity framework (GBF) under the Convention on Biological Diversity (CBD) present a unique opportunity to promote synergies between both agendas through the unifying theme of infrastructure.

While many parties are committed to conserving 30% of terrestrial, inland water, coastal, and marine areas globally by 2030, too little attention is given to the remaining 70% of the planet that will be impacted by future development. **Negotiators should ensure that infrastructure is addressed in the goals and targets of the GBF and apply a synergistic climate and biodiversity lens.** This is critical if we are to not just meet and maintain the 30% target but also to achieve nature-positive development—with net restoration—in the 70% of the planet where most human activity occurs.



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We need the following GBF language changes and actions within countries to address infrastructure challenges core to achieving CBD (and UNFCCC and other international environmental agreement) goals:

Post-2020 GBF Agreement Language

- 1. Within Target 1, ensure that biodiversity-inclusive participatory spatial planning and other effective management and governance processes explicitly address infrastructure** (as well as mining and other extractive activities).
- 2. Maintain infrastructure as explicitly named in the final agreement language for Target 14,** regardless of the decision addressing the long-term strategic approach to mainstreaming and its action plan. Infrastructure is a critical sector driving nature and biodiversity loss, and therefore essential to addressing them, especially given current and projected development trends. Removing infrastructure risks downgrading it as a priority for countries to mainstream development plans moving forward (see below).
- 3. Ensure section B.bis, paragraph 12 includes the need to apply the mitigation hierarchy,** prioritizing the avoidance of areas of high biodiversity importance, including those that support multiple ecosystem services and that contribute to Nationally Determined Contribution (NDC) goals in mitigation and adaptation. Where avoidance is impossible, we should require restoration to achieve biodiversity net gain, with natural footprints larger than prior to major infrastructure developments.¹
- 4. Commit to developing and implementing sectoral action plans at national, regional, and global levels** (to be included in section E). Such plans are required to ensure stakeholders of the main sectors, as identified by previous Conferences of the Parties (COPs), come together and deliver coordinated and coherent action to contribute to the achievement of the post-2020 GBF mission, goals, and targets.

Country Implementation to Achieve Agreed GBF Targets

To achieve these mainstreaming objectives and meet the updated targets of the GBF, countries should take the following actions:

¹ See for example the Environment Act 2021 in the UK requiring 10% net gain for all major infrastructure development projects:

<https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>.

Spatial and Strategic Planning

5. **Targets 1, 2, 3, 8: Include national commitments on biodiversity, climate, and economic development in all national development plans to guarantee synergies and manage trade-offs.** Countries should establish multiagency working groups/committees to identify synergies and trade-offs across infrastructure development, biodiversity, and climate plans and explicitly prioritize infrastructure development plans that enable meeting NDC and National Biodiversity Strategy and Action Plan goals.

6. **Target 1, 19.2: Increase investment in capacity building and data development** for integrated spatial planning through existing and new global financing mechanisms (including potential resources from recent loss and damage funding from COP27 for nature-based solutions/natural infrastructure).

Restoration

7. **Target 2: Increase ambition toward nature/biodiversity positivity in all large-scale, high-impact infrastructure developments** to go beyond reducing negative impacts and increase restoration. Current minimum ESG standards—entirely focused on reducing adverse impacts—are insufficient in the face of such negative climate and biodiversity trends. Governments, developers, and financiers will need to go beyond “do no harm” to contribute to biodiversity gains through restoration under the GBF (and synergies with NDC mitigation and adaptation goals through nature-based solutions).

Mainstreaming and Finance

8. **Target 14: Adopt updated standards for infrastructure project cost-benefit analysis** based on full-cost accounting of environmental externalities and dependencies over project lifetimes and at the landscape scales.

9. **Target 1, 2, 14: Require screening for all overseas development assistance for infrastructure to follow mitigation hierarchy and nature-positivity approaches,** prioritizing avoidance of critical biodiversity habitats and ultimately creating net increases in habitat through restoration in critical and noncritical areas.

10. **Target 1, 2, 8, 19.1: Increase the flexibility of funding mechanisms designed for adaptation and mitigation infrastructure** to allow for nature-based infrastructure investments with clear positive biodiversity outcomes.

11. **Target 2, 8, 14: Move toward nature-based infrastructure as a financial asset** and promote mechanisms such as carbon credits, green bonds, trading of stormwater credits, tax increment financing, and blended public funds providing capital in the form of grants, equity, and debt.

For further information contact

Ryan Bartlett

Director, Climate Risk Management & Resilience
WWF-US

ryan.bartlett@wwfus.org

Anna Willingshofer

Policy Advisor, Biodiversity & Sustainable Infrastructure
The Nature Conservancy

a.willingshofer@tnc.org

References

¹Dasgupta, P. (2021). The Economics of Biodiversity: The Dasgupta Review. (London: HM Treasury) Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/962785/The_Economics_of_Biodiversity_The_Dasgupta_Review_Full_Report.pdf

²IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany. 1148 pages. doi:10.5281/zenodo.3831673

³Bhattacharya, A., Oppenheim, J., & Stern, N. (2015). Driving Sustainable Development Through Better Infrastructure: Key Elements of a Transformation Program. (Vol. 19, Ser. Global Economy & Development). Washington, DC: Brookings Institution. Retrieved from <https://www.brookings.edu/wp-content/uploads/2016/07/07-sustainable-development-infrastructure-v2.pdf>

⁴Oakleaf, J.R., Kennedy, C.M., Baruch-Mordo, S., West, P.C., Gerber, J.S., Jarvis, L., et al. (2015) A World at Risk: Aggregating Development Trends to Forecast Global Habitat Conversion. PLoS ONE 10 (10): e0138334. doi:10.1371/journal.pone.0138334

⁵Alamgir, M. et al. (2017) Economic, Socio-Political and Environmental Risks of Road Development in the Tropics. Current Biology. doi:10.1016/j.cub.2017.08.067

⁶Thacker, S. et al. (2021). Infrastructure for climate action. Copenhagen, Denmark: UNOPS. Retrieved from https://content.unops.org/publications/Infrastructure-for-climate-action_EN.pdf?mime=20211008124956&focal=none