Business Planning for Biodiversity Net Gain: Technical Notes to the Roadmap







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## About this Document

These technical notes accompany the BBOP roadmap for business on planning for biodiversity net gain.<sup>1</sup> BBOP ran from 2004-2018 to help developers, conservation groups, communities, governments and financial institutions develop and apply best practice towards achieving no net loss and preferably a net gain of biodiversity through the thorough application of the mitigation hierarchy (avoid, minimise, rehabilitate/restore, offset). The Principles, Standard and Handbooks published by BBOP were developed and tested by members of the BBOP Secretariat and Advisory Group and all the BBOP documents have benefited from contributions and suggestions from many people who registered on the BBOP consultation website and numerous others who joined us for discussions in meetings and webinars.

All BBOP Advisory Group members support the Principles, and many companies and governments have integrated them into their own commitments and also use the Standard and other tools. We commend the full set of BBOP materials to readers as a source of guidance on which to draw when considering, designing and implementing projects as well as policies that aim for the best outcomes for biodiversity in the context of development.

BBOP has now concluded its work but best practice in this area is still developing. We hope the legacy of BBOP is that its materials continue to be used and the concepts and methodologies presented here are refined over time based on practical experience, research and broad debate within society. All those involved in BBOP are grateful to the companies who volunteered pilot projects and the members that developed and applied draft versions of the Standard and other tools as they were developed.

To learn more, see: <a href="https://www.forest-trends.org/bbop/">https://www.forest-trends.org/bbop/</a>

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# Business Planning for Biodiversity Net Gain (BNG): Technical Notes to the Roadmap

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Technical Note 8: Integration of BNG into existing environmental management systems

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#### Approaches for value chains and financial institutions

Technical Note 17: Supplementary information on Roadmap section 3.3: Working towards BNG through the company's value chain

Technical Note 18: Supplementary information on section 3.4: Working towards BNG through investment strategies and engagement

Technical note 19: Footprinting methodologies for Financial Institutions

#### Reporting

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#### An introduction to these Technical Notes

Biodiversity Net Gain is the desired outcome for biodiversity after development. Achieving BNG means considering biodiversity in processes and decisions that feed into development planning: e.g. from early risk and opportunity assessment and making investment decisions, through environmental impact assessment and applying the mitigation hierarchy, to forging partnerships, managing, monitoring and reporting on performance and biodiversity outcomes. It is the increased attention to biodiversity impacts and risks in all these activities that will enable a BNG outcome. These Technical Notes offer pointers to useful resources about these activities, as well as providing information that's specific to BNG.

Technical Note 1 gives definitions of some key terms. The following Technical Notes offer explanations and supplementary information on a variety of topics numbered chronologically as they occur in the **separate**, **principal document** 'Business Planning for Biodiversity Net Gain: a Roadmap' (shown to the right) to which they refer. Table 1 clusters the Technical Notes under themes.

Please note that the information in these Technical Notes is not comprehensive or complete and may not be up to date.



#### Technical Note 1: Definitions of key terms

Please note that many of these terms are used by a wide range of parties and particular definitions may vary, for instance in legislation by different countries and specific commitments by individual companies.

Term	Definition	Source
No Net Loss	A goal for a development project, policy, plan or activity in which the impacts on biodiversity it causes are balanced or outweighed by measures taken to avoid and minimise the impacts, to restore affected areas and finally to offset the residual impacts, so that no loss remains. NNL must be defined relative to an appropriate reference scenario ('NNL of what compared with what?').	BBOP Glossary 2018. <u>https://www.forest-</u> <u>trends.org/bbop_pubs/glossary_2018</u> Other sources with similar but distinct definitions:
	For companies, this goal may be set at a site, project or corporate level, or for part of the value chain. For financial institutions, the focus could be their investment strategies, based on environment, social and governance (ESG) policy that refers to NNL.	IFC Performance Standard 6. http://www.ifc.org/wps/wcm/connect/bff 0a28049a790d6b835faa8c6a8312a/PS6_E nglish_2012.pdf?MOD=AJPERES
	Notes: 1. NNL must be defined relative to an appropriate reference scenario. For example, the reference scenario can be what is likely to have occurred in the absence of a particular project and its mitigation measures (including any biodiversity offset), or a scenario that provides a better outcome for biodiversity conservation (e.g. where the reference scenario does not assume a declining biodiversity trend). It is important to set out clearly the assumptions underlying the definition of this frame of reference.	IUCN policy on biodiversity offsets. The full text of the IUCN policy can be downloaded from: <u>https://www.iucn.org/theme/business-</u> <u>and-biodiversity/our-work/business-</u> <u>approaches-and-tools/biodiversity-offsets</u>
	2. While mitigation measures can be designed with the aim of achieving NNL/Net Gain of all the biodiversity affected, it is not possible to measure each component separately, so surrogates are usually used to represent biodiversity overall. In general, such surrogates are based on selected components of biodiversity (e.g. vegetation or a species, sometimes a set of measurable ecological functions).	
Biodiversity Net Gain (BNG)	A goal for a development project, policy, plan or activity in which the impacts on biodiversity it causes are outweighed by measures taken to avoid and minimise the impacts, to restore affected areas and finally to offset the residual impacts, to the extent that the gain exceeds the loss. BNG must be defined relative to an appropriate reference scenario ('net gain of what compared with what?').	BBOP Glossary (as above)

	For companies, this goal may be set at a site, project or corporate level, or for part of the value chain. For financial institutions, the focus could be their investment strategies, based on environment, social and governance (ESG) policy that refers to BNG.	
Net Positive Impact	<ul> <li>An overall benefit for biodiversity.</li> <li>The point at which the biodiversity gain (through measures taken to offset residual impacts of a development project) exceeds the loss.</li> <li>A net gain to biodiversity features measured in quality hectares (for habitats), number or percentage of individuals (for species) or other metrics appropriate to the feature.</li> </ul>	Rio Tinto 2012. <u>http://old.stage.riotintodev.com/documen</u> <u>ts/Biodiversity_action_planning-</u> <u>guidance_note.pdf</u>
Net Positive, or Net Positive Approach	Net Positive is a new way of doing business which creates an overall – or 'Net' – positive impact; 'putting more back into the environment or society than a company takes out'. Any tradeoffs (loss in one area for gain in another) must be explained. <i>Note: This term is slightly different from Net Gain or Net Positive, which relate</i> <i>explicitly to biodiversity. 'Net Positive' potentially allows for some loss of biodiversity</i> <i>that could be outweighed by gains in another sphere, still satisfying 'net positive'.</i>	Forum for the Future. <u>https://www.forumforthefuture.org/net-</u> <u>positive</u>
Zero Net Deforestation	No overall loss of forest area or forest quality, while acknowledging that some forest loss could be offset by forest restoration; it thus allows some flexibility to meet local needs, recognising that, in some circumstances, conversion of forests in one site may contribute to the sustainable development and conservation of the wider landscape. ZND is explicitly not achieved by conversion of primary or natural forests to fast- growing plantations).	WWF: <u>http://awsassets.panda.org/downloads/w</u> <u>wf 2020 zero net deforest brief.pdf</u> Consumer Goods Forum: <u>https://www.theconsumergoodsforum.com/i</u> <u>nitiatives/environmental-sustainability/key-</u> <u>projects/deforestation/</u>

Mitigation	The mitigation hierarchy is defined as: BBOP Glossary (as above)	
hierarchy	a. <u>Avoidance</u> : measures taken to avoid creating impacts from the outset, (including	
	direct, indirect and cumulative impacts), such as careful spatial or temporal	
	placement of elements of infrastructure, in order to completely avoid impacts on	
	certain components of biodiversity.	
	b. Minimisation: measures taken to reduce the duration, intensity and / or extent of	
	impacts (including direct, indirect and cumulative impacts, as appropriate) that	
	cannot be completely avoided, as far as is practically feasible.	
	c. <u>Rehabilitation</u> / <u>restoration</u> : measures taken to rehabilitate degraded ecosystems	
	or restore cleared ecosystems following exposure to impacts that cannot be	
	completely avoided and / or minimised.	
	d. Offset: measures taken to compensate for any residual significant, adverse	
	impacts that cannot be avoided, minimised and / or rehabilitated or restored, in	
	order to achieve <u>no net loss</u> or a <u>net gain</u> of biodiversity. Offsets can take the	
	form of positive management interventions such as <u>restoration</u> of degraded	
	habitat, <u>arrested degradation</u> or <u>averted risk</u> , protecting areas where there is	
	imminent or projected loss of biodiversity.	
	e. Compensation: measures to recompense, make good or pay damages for loss of	
	biodiversity caused by a project that can fall short of achieving no net loss. For	
	instance: conservation actions may not have been planned to achieve no net loss;	
	losses and gains of biodiversity may not have been quantified; no mechanism may	
	be in place for long term implementation; it may be impossible to offset the	
	impacts; or compensation payments may be used for training, capacity building,	
	research or other outcomes that will not result in measurable conservation	
	outcomes on the ground.	

#### Technical Note 2: Examples of companies with BNG/NNL/ NPI/ NG/ ZND commitments

As Figure 1 illustrates, it is estimated that over 60 companies have public, company-wide commitments or aspirations for No Net Loss of biodiversity (The Biodiversity Consultancy, 2018, in prep). This represents roughly a doubling since a study by Rainey et al. in 2012. The extractive sectors have been leading the growth in these commitments.



Figure 1: Growth in the number of companies with public, company-wide commitments/aspirations to No Net Loss of biodiversity. Source: The Biodiversity Consultancy, 2018, *in prep*.

The focus of these commitments and mechanisms to achieve them varies from company to company: in some cases the emphasis is on impacts caused by operations directly (e.g. mining or agriculture/ forestry companies), and in others the focus is on impacts resulting from supply chains (e.g. commodity suppliers or retail companies).

A selection of these commitments is presented in the table below to illustrate this finding; this list is by no means comprehensive, complete or up to date.

Category	Name	Commitment
Individual	Apple	Net zero impact on the world's supply of sustainable
company		virgin fibre
	Anglo American	Deliver 'net positive impact (NPI) across Anglo American
		through implementing the mitigation hierarchy and
		investment in biodiversity stewardship'
	AngloGold Ashanti	Committed to avoiding any net loss of biodiversity as a
		result of new projects, and promoting net positive
		impacts on biodiversity if a new project is in critical
		habitat
	Barrick Gold Corporation	Strive for No Net Loss of biodiversity
	Cemex	No Net Loss of biodiversity and, at best, achieving a
		lasting and overall positive impact on biodiversity,
		compared to the state prior to when operations began
	Colgate	Mobilise resources to help achieve Zero Net
		Deforestation by 2020
	Highways England	No Net Loss to biodiversity by 2020 and Net Gain by 2040

	Ikea <sup>2</sup>	Overall positive impact on the planet and contribute to
		protecting biodiversity
	Kingfisher	Net Positive
	Lafarge	Net Positive Impact, mainly at the site level (exceptions
		are noted particularly at older sites)
	Network Rail	Net Gain for biodiversity; Net Positive Contribution to
	Infrastructure Projects,	biodiversity in the United Kingdom
	Thameslink	
	Sherritt International	Achieve no net loss, or preferably a net gain, of
	Corporation	biodiversity for greenfield projects and significant
		expansions of current operations
	Solid Energy	Net Positive Effect on the New Zealand environment
	Teck Resources Ltd	Net Positive Impact on biodiversity, to develop NPI
		targets for exploration, construction and closure stages
Group of	British American	Minimise impact on biodiversity and the wider
companies	Tobacco	environment, offsetting impacts at a regional or national
		level.
	De Beers Group of	No net loss of significant biodiversity through responsible
	Companies	planning and stewardship of biodiversity, from
		exploration through to the closure of operations and
		making a contribution to biodiversity conservation in the
		regions within which we operate
	Energias de Portugal	Overall positive impact on biodiversity; a globally positive
	group	biodiversity balance sheet
	General Mills	Zero Net Deforestation in high-risk supply chains by 2020
	Rio Tinto Group	Net Positive Impact in the regions in which they operate before – or by - closure of operations
Organisation/	Consumer Goods Forum	Committed to help members (400 global brands) achieve
institution		Zero Net Deforestation in their supply chains by 2020.
	Forum for the Future's	Net Positive
	Net Positive Project	
	International Finance	No Net Loss of biodiversity where feasible (Natural
	Corporation:	Habitat); Net Gain of biodiversity (Critical Habitat)
	Performance Standard 6,	
	and Equator Principles	
	Financial Institutions	
	Net Positive Impact	Net Positive Impact for biodiversity
	Alliance	
	The UN Global Compact	Strive to set biodiversity and ecosystem services targets
	and IUCN Framework for	focused on achieving a net positive impact or at the
	Corporate Action on	minimum no net loss of biodiversity
	Biodiversity and	
	Ecosystem Services	
	World Wildlife Fund	Advocates Zero Net Deforestation and Forest
		Degradation by 2020 <sup>3</sup>

From this table, it can be seen that some commitments vary from vague, aspirational and broad statements (e.g. 'net positive', 'net positive impact on the environment' or 'overall positive impact on the planet') to more specific, quantified goals that make explicit mention of biodiversity and give an indication of scope of NPI goals (e.g. Net Positive Impact on biodiversity; to develop Net Positive Impact

<sup>&</sup>lt;sup>2</sup> <u>https://www.ikea.com/ms/en\_US/pdf/reports-downloads/sustainability-strategy-people-and-planet-positive.pdf</u>

<sup>&</sup>lt;sup>3</sup> Zero Net Deforestation recognises peoples' right to clear some forests for agriculture, or the value in occasionally 'trading off degraded forests to free up other land to restore important biological corridors, provided that biodiversity values and net quantity and quality of forests are maintained.

targets for exploration, construction and closure stages – Teck Resources Ltd; to achieve Net Positive Impact before or by closure of operations – Rio Tinto Group).

To ensure that BNG goals benefit biodiversity and manage a company's business risk, they need to be clearly defined so that they are measurable and verifiable, and include a number of key components (Technical Note 5): e.g., what does the company mean by 'BNG'? What: what is the scope of biodiversity to be covered (e.g. habitat types, species, etc.) and the timeframes within which BNG is to be achieved?

#### Technical Note 3: Business risks, opportunities and challenges

At a global level, and setting the scene for businesses in future, the United Nations' 2030 Agenda for Sustainable Development, with its 17 Sustainable Development Goals, expressly recognises the importance of maintaining and safeguarding of natural capital, if humanity's hopes of sustainable development for all are to be fulfilled<sup>4</sup>. A number of reports e.g. Deutsche Bank Group publication (2012)<sup>5</sup>, University of Oxford and Arabesque Partners (2014)<sup>6</sup>, and Generation Investment (2015)<sup>7</sup> point to sustainability risks and opportunities of the natural environment in general, and biodiversity in particular, directly affecting long-term business profitability.

Category (from Hanson et al 2012)	Opportunity	Risk
Operational	Ecosystem services to support operations; healthy and resilient environment within which to operate, for greater safety, quality of life and economic stability	Reduced productivity; scarcity & increased cost of resources; operational & supply chain disruption
Regulatory & legal	Leadership with governments to help shape policies & regulations	Fines & project delays; liability for biodiversity impacts
Reputational	Preferred operator status, improved quotas; staff attraction and loyalty; 'social licence to operate'	Loss of 'social licence to operate' through e.g. conflict with local communities; restricted access to land & resources
Market & product	Brand differentiation; increased profit margins; compliance with purchaser preferences; room for innovation in the development of products, materials and business models.	Damage to brand; boycotts
Financing	Access to finance	Reduced finance opportunities, reduced credit quality

#### Major drivers of environmental opportunity and risk for companies

Modified from Rainey et al 2014

e.g. Risks to business of ongoing loss of forests include:

- The physical effects of climate change on commodity supply and prices;
- Constraints to commodity supply caused by the introduction of policies or other measures to protect forests;
- Suppliers breaching agreements to halt deforestation directly, or through their own suppliers;
- Disputes over land-use and tenure threatening corporate licenses to operate;

<sup>5</sup> <u>https://institutional.deutscheam.com/content/\_media/Sustainable\_Investing\_2012.pdf</u>

<sup>&</sup>lt;sup>4</sup> <u>http://www.un.org/sustainabledevelopment/sustainable-development-goals/</u>

<sup>&</sup>lt;sup>6</sup> <u>http://www.arabesque.com/index.php?tt\_down=51e2de00a30f88872897824d3e211b11</u>

<sup>&</sup>lt;sup>7</sup> https://www.genfound.org/media/pdf-genfound-wp2015-final.pdf

- Reduced availability of credit as banks commit to stop financing activities that contribute to deforestation; and
- Illegal material entering supply chains.
- Source: Carbon Disclosure Project, Global Forests Report 2015

There are potentially a number of challenges for companies striving to pursue and achieve BNG, as reflected in the following table.

Typical challenges	Possible approaches to address challenges
Lack of reliable data on the	The main drivers for pursuing a NNL or BNG approach may not be
probable costs of working towards	financial reward, but rather a range of other benefits (such as risk
BNG	management, license to operate) that are difficult to value in
Uncertainty about the return on	monetary terms and whose return on investment is hard to
investment implicit in adopting a	quantify. There is no 'one answer' to the challenge of showing the
NNL or BNG approach	value and costs associated with NNL/BNG. Companies could list
	the costs and benefits (quantified and unquantified) and take a
	qualitative or semi-quantitative view on the advantages of moving
	ahead. They could also consider tracking the costs and benefits
	over a trial period to enable more informed decision making.
Time constraints involved in finding	The increase in available technologies and tools, together with
areas where impacts should be	proliferation of guidance materials and on-line assistance, can help
avoided and finding suitable offsets	to alleviate this challenge. Companies are already using a suite of
Spatial constraints in determining	tools (to which links are given in these appendices) to good effect.
areas where impacts should be	Starting such planning early in the project life-cycle can ensure the
avoided and finding suitable offset	work nappens in parallel to other project development, so that the
areas	action of mitigation measures does not hold up the project.
Lack of capacity in the company on	establishing partnerships with conservation groups and consulting
this subject	government on conservation phonties can also help.
Lack of confidence of trust in	Forging partnerships with conservation organisations and research
entering into partnerships with	institutions is likely to benefit the company in the longer term
conservation organisations of	through building a deeper understanding of blodiversity issues and
	communities. An onen and honest approach with clear
	boundarios set on both sides can facilitate constructive
	angagement
Uncertainty about future socio-	These uncertainties apply to all company decisions: given growing
political and regulatory situation	environmental and hiodiversity concerns and the LIN's new
	Sustainable Development Goals, it is reasonable to anticipate
	more stringent requirements regarding biodiversity in the future
	A company could thus have a competitive advantage by pursuing
	NNL/BNG.

#### A new focus on 'opportunity' and the link to Biodiversity Net Gain

Companies are increasingly attracted by the opportunities afforded by supporting high standards on biodiversity and creating pro-biodiversity businesses. Within the innovation framework, approaches such as 'Cradle to Cradle', the Natural Step and the Blue Economy celebrate diversity, strive for a sustainable society, and develop smart innovations using and inspired by the natural world (e.g. bioprospecting and biomimicry). Indeed, there is almost limitless room for innovation in the development of biodiversity-friendly products, materials and business models, since ecosystems deliver multiple benefits offering a business case for biodiversity.

The relationship between this opportunity-based focus on business and biodiversity and a specific approach of working towards BNG deserves careful thought. The core of BNG is to ensure that companies (as well as governments and citizens) at the very least address their footprints and apply the

mitigation hierarchy thoroughly, following 'avoid, minimise, restore, offset' to reach the goal of BNG. Pro-biodiversity business and innovation can make a major contribution towards BNG by generating the skills, technologies and products to apply the mitigation hierarchy, and once BNG is satisfied, to generate results that are even more net positive. However, the two approaches only overlap to the extent that pro-biodiversity businesses can show that they are addressing their impacts, so that the benefits they generate for biodiversity are *net* positive.

# Technical Note 4: Company tools to assess biodiversity risks, opportunities, impacts and dependencies

A number of tools exist for companies to assess their high-level biodiversity risks and opportunities. Use of these tools alone will not result in Biodiversity Net Gain, but they provide a useful overall context and starting point for biodiversity management within which specific work for BNG can be undertaken.

e.g. The World Business Council for Sustainable Development<sup>8</sup>'s Corporate Ecosystem Services Review Guidelines for Identifying Business Risks and Opportunities Arising from Ecosystem Change (2008).

e.g. British American Tobacco's Biodiversity Risk and Opportunity Assessment Tool, and global biodiversity risk mapping tool were developed to enable an overview of biodiversity risk.

e.g. Teck Resources Ltd uses established databases (e.g. IUCN Red List, World Database on Protected Areas) and Geographic Information Systems to identify protected areas, areas of high biodiversity value, and species at risk that occur within 25 km of operations and major development projects.

e.g. Barrick Gold Corporation uses IBAT to assess corporate-level biodiversity risks.

e.g. Bank and Investor Risk Policies on Soft Commodities (UNEP 2015) which determines whether current practice is:

*Tier 1: Best practice:* leading the way, *Tier 2: Minimum standards:* on track relative to average benchmark performance, or *Tier 3: Starting grid:* needs improvement.

e.g. the Group-wide Biodiversity Assessment Profile of Rio Tinto, which focuses on four main biodiversity risk areas (as well as taking into account the governance and local knowledge context), namely interaction with:

- a) protected areas
- b) sensitive habitats or conservation priorities
- c) species of conservation value and
- d) local biodiversity features of importance natural goods and services, cultural heritage value

e.g. Lafarge's Materiality Matrix rates issues that are

- a) inherently important because of the nature of the business
- b) important in certain local contexts due to cultural or geographical specificities
- c) of general corporate responsibility.

e.g. RobecoSAM, Total - Corporate Sustainability Assessment DJSI Sustainability Assessment 2015 evaluates levels of e.g.

- a) awareness of biodiversity risks,
- b) biodiversity risk management,

<sup>&</sup>lt;sup>8</sup> World Resources Institute (WRI), Meridian Institute, World Business Council for Sustainable Development.

<sup>15 -</sup> BBOP Business Roadmap, Technical Notes

- c) commitment to avoid World Heritage Sites, IUCN protected areas, extinction of species
- d) stakeholder engagement in biodiversity strategy
- e) Public reporting, external and internal assurances.

e.g. Total uses the following to identify risks and sensitivities:

- a) Proteus databases- including IBAT, Protected Planet, Ocean Data viewer, Marine & coastal Critical Habitat; and
- b) IUCN Red List global database.

#### Technical Note 5: Reporting on progress towards BNG

There are a number of reporting frameworks that cover the environment in general, and biodiversity and/ or natural capital in particular. Of these, the Global Reporting Initiative (GRI) is the most frequently used and quoted reference framework for reporting in the world (IUCN French Committee 2014).

With particular reference to biodiversity and company reporting, the GRI (created in 1997 by the Coalition for Environmentally Responsible Economies (CERES) in partnership with the United Nations Environment Programme, UNEP) and the Eco-Management and Audit Scheme (EMAS, a voluntary European Union eco-management and audit system, designed to enable all types of organization to evaluate, publish and improve their environmental performance) provide best coverage; other more general frameworks include the ISO 14001 system, Integrated Reporting (IR) framework, and the Global Compact.

Useful biodiversity indicators for monitoring and evaluation, and for reporting are provided by the Biodiversity Indicators Partnership (2010). https://www.cbd.int/doc/publications/cbd-ts-53-en.pdf.

According to the GRI, a company's understanding and expectations of biodiversity can provide key contextual information in understanding its performance. As the need to move to a truly sustainable economy is understood by companies' and organizations' financiers, customers and other stakeholders, expectations that long-term profitability should go hand-in-hand with social justice and protecting the environment are gaining ground. Sustainability reporting helps organizations to set goals, measure performance, and manage change in order to make their operations more sustainable. Sustainability reporting assists in understanding and managing the effects of sustainability developments on the organization's activities and strategy. Internationally-agreed disclosures and metrics enable information within sustainability reports to be made accessible and comparable, providing stakeholders with better information to inform their decisions. GRI includes the conservation of biodiversity as one of the components of sustainability. A note on how the GRI criteria relate to NNL/BNG appears in the following table.

Sources:

✓ IUCN French Committee. 2014. Paris. Corporate biodiversity reporting and indicators situation analysis and recommendations.

<u>https://www.uicn.fr/IMG/pdf/IUCN\_ReportingBiodiversity\_en.pdf</u>
 ✓ Biodiversity: A GRI Reporting Resource. 2007.

- <u>https://www.globalreporting.org/resourcelibrary/Biodiversity-A-GRI-Resource-Document.pdf</u>
   ✓ GRI G4 sustainability reporting principles and standard disclosures.
- https://www.globalreporting.org/resourcelibrary/GRIG4-Part1-Reporting-Principles-and-Standard-Disclosures.pdf
- ✓ <u>https://g4.globalreporting.org/specific-standard-</u> <u>disclosures/environmental/biodiversity/Pages/default.aspx</u>
- ✓ ISO 14001. <u>https://www.iso.org/obp/ui/#iso:std:iso:14001:ed-2:v1:en</u>
- ✓ ISO 14001: 2015. <u>http://www.iso.org/iso/iso14001\_revision</u>

Reporting initiative	Requirement	Note on BNG
GRI 4, 2015	Report on how the organisation manages biodiversity and its impacts	A BNG approach can be embedded in the
	Report on evaluation of the effectiveness of this approach and any	organisation's management of
G4 Disclosures on	adjustments (internal or external auditing, performance rating,	biodiversity and its impacts. The explicit,
Management Approach	benchmarking, measurement systems, stakeholder views)	measurable goal of this approach can be
(biodiversity)		used as the benchmark for a transparent
	Typically, managing biodiversity and impacts includes:	evaluation of the effectiveness of
G4 EN 9, G4 EN 11-14, G4	<ul> <li>Assessing biodiversity value</li> </ul>	company management in achieving this
EN 26	✓ Assessing impacts	outcome.
	<ul> <li>Preventing negative impacts</li> </ul>	
	✓ Minimizing negative impacts	BNG focuses on an early understanding
	✓ Enhancing positive impacts	of biodiversity importance and risks,
	<ul> <li>Influencing supply chains (e.g. requiring certification)</li> </ul>	rigorous application of the mitigation
	<ul> <li>Resourcing biodiversity protection efforts</li> </ul>	merarchy in assessing, evaluating and
	<ul> <li>Use of biodiversity performance indicators</li> <li>Managing and considering correspondence on convertence</li> </ul>	mitigating impacts, and the use of sound motrics to mossure performance. The
	<ul> <li>Managing and considering company dependence on ecosystem</li> </ul>	GPL provides for reporting on all these
	Services	elements
	Report on water resources affected by withdrawal of water	elements.
	Report on land within, containing or next to legally protected areas     (DAc) areas of high highly argin budges to a sensitivity or (special' pature)	BNG similar to the GBL4 focuses on
	(PAS), aleas of high blouversity value, sensitivity of special flature	material biodiversity issues such as
	management of - hiodiversity risks	protected areas and areas of high
	<ul> <li>Report on significant direct and indirect impacts on the above areas</li> </ul>	biodiversity value. In addition, it covers
	Report on significant direct and mancet impacts on the above areas.	both restoration and protection of
	Report on Red List species, national conservation list species with	habitat by the organisation; effectively
	habitats in or affected by operations	also providing for reporting on
	<ul> <li>Benort on water bodies and related babitats and their biodiversity value</li> </ul>	biodiversity offset measures which
	and protection status affected by operations (discharges runoff etc.)	contribute to achieving NPI.
ISO 14001: 2015	Commitment to continual improvement in environmental performance	A commitment to BNG can readily be
	Setting and reviewing environmental objectives and targets	incorporated into ISO 14001: BNG
	<ul> <li>Identifying material risks and issues</li> </ul>	involves use of explicit performance
	<ul> <li>Means and timeframes for achieving objectives and targets</li> </ul>	targets and the use of metrics, and clear
	Audit and management reviews	definition of timeframes to reach BNG.

	<ul> <li>Communication of results (may be both internal and external, or just internal)</li> <li>Checking and identifying non-conformities; corrective and/ or preventive action</li> </ul>	As noted, the 2015 standard increases emphasis on environmental protection and performance; the very intention of a BNG approach.
	The recently updated ISO 14001: 2015 expands on commitment to proactive initiatives to protect the environment from harm and degradation. Although it does not define 'protect' it notes that it can include pollution prevention, sustainable resource use, protection of biodiversity and ecosystems, etc.	
	There is also a shift in emphasis with regard to continual improvement,	
	from improving the management system to improving environmental	
	performance, and encouraging 'lifecycle' thinking.	
EMAS	<ul> <li>Results must be disclosed to external stakeholders</li> </ul>	Although a relatively general framework,
	Reporting topics include:	a BNG approach could certainly be
	<ul> <li>Environmental policy and targets.</li> </ul>	incorporated into EMAS reporting.
	✓ The consumption of resources	
	<ul> <li>The direct and indirect negative impacts on the environment</li> </ul>	
	✓ Stakeholder engagement.	

#### **Technical Note 6: Feasibility of achieving BNG**

#### BNG at the 'group of companies' or company level

There are limits to impacts on biodiversity that would be acceptable by society as a result of development: where that biodiversity has high irreplaceability (i.e. is unique, has extremely limited distribution), is very vulnerable (e.g. its ability to persist is threatened), and/ or it has highly valued cultural or human use values, then additional harm would be unacceptable. Making a BNG commitment implies respecting these limits and seeking to make a positive contribution, both through addressing and managing the direct impacts on biodiversity of company activities and improving biodiversity practice through its supply/ value chains.

There may be specific projects or activities where achieving BNG may not be possible, as described below. However, these exceptions should not deter a company from striving to meet BNG goals across its operations.

#### BNG at the individual project level

Applying BNG at the project level means ensuring that each project would lead to an improved situation with regard to the affected biodiversity<sup>9</sup> within its area of influence. 'Biodiversity' encompasses people's socioeconomic and cultural values, and dependencies on biodiversity, as well as its intrinsic values e.g. existence of rare species). For this reason, in addition to undertaking conservation of habitats and species, NPI generally entails ensuring that communities affected by development projects and the associated mitigation measures (including biodiversity offsets) are left better off (with respect to these biodiversity values) than if the project and mitigation had not gone ahead. This result is obtained through greater protection levels for biodiversity, a better condition or quality of biodiversity and/ or ecological functioning, and compensation - where needed - for loss of socioeconomic and cultural values associated with biodiversity.

Determining and understanding **the sensitivity and significance of biodiversity and ecosystem services in the area to be affected, and how that area contributes to wider ecosystem health and functioning,** is a crucial first step in identifying biodiversity risks and working towards BNG.

**Rigorous application of the mitigation hierarchy is fundamental to achieving BNG.** In cases where the biodiversity components to be affected by a project have high irreplaceability or vulnerability, negative impacts have to be prevented or avoided (i.e. no loss is permissible); the emphasis is on the first step in the mitigation hierarchy. Moreover, to achieve BNG, steps would have to be taken to improve the affected biodiversity's ability to persist (e.g. restoring habitat, increasing reproductive success, creating links with other suitable habitat).

In some contexts, impacts on biodiversity may at first appear likely to be acceptable on condition that adequate offsets could be delivered to attain BNG. Offsets would need to be provided broadly either through

- management actions to restore affected biodiversity, and/ or
- strengthened protection to avert future biodiversity loss.

However, where restoration of habitat is unlikely to be successful in the short to medium term, and species dependant on that habitat are threatened (so that time lags in recovery of their habitat would not be acceptable), this offset mechanism would not work. So-called 'averted loss' approaches have potential where 'without project' rates of biodiversity loss are high. Where these background rates of loss are low (i.e. existing and likely future threats to biodiversity are low), this type of offset would also be unlikely to succeed.

<sup>&</sup>lt;sup>9</sup> Note that this means for all relevant values of biodiversity, including people's use and cultural values, as appropriate.

In these situations, strict NPI using a 'like for like' offset approach would not be feasible; however, options to target more threatened biodiversity or areas may have potential, provided that clear exchange rules were defined.

Where a project is seen to be of strategic importance to a country or sector, alternative locations or designs to prevent significant negative impacts for that project are not feasible, and 'non-offsetable' impacts would thus be deemed 'acceptable' in the overriding public interest, then the company should clearly communicate that the project cannot achieve BNG. In this situation, compensation should be provided to aim as close to NPI outcomes as possible.

In some sectors and activities, BNG may be difficult to attain. For example, the agricultural and forestry sectors (UNEP 2015) where:

- Activities would cause large- scale impacts on ecosystems and/or species in natural areas where regional biodiversity loss is not occurring.
- There is a risk that measures to protect natural areas, habitat and/ or species of conservation concern will be poorly designed or enforced.

#### **Technical Note 7: Important components of BNG goals**

According to sources (e.g. Rainey et al, 2014), the following components are likely to increase their effectiveness in benefiting biodiversity and managing business risk

- 1. Specifying the scope of biodiversity that is included, rather than a general mention of 'biodiversity' or 'environment';'
- 2. Specifying which impacts are included (e.g. direct, indirect, cumulative), which types of project or finance, existing, future and/ or past projects;
- 3. Measurable goals;
- 4. Applying the mitigation hierarchy;
- 5. Respecting limits to impacts (i.e. to what can be offset) and stating impacts to be wholly avoided;
- 6. Timeframes for achieving goals; and
- 7. Transparency and public disclosure.

According to IFAC (2014), key success factors behind BNG initiatives include:

- 1. Having vision, leadership and commitment from the top of the organization;
- 2. Collaborating closely with customers and suppliers; and
- 3. Communicating with stakeholders through high-quality reports and disclosures.

The Business and Biodiversity Offsets Programme's Standard on Biodiversity Offsets (2012) provides a set of principles, criteria and indicators for use in delivering 'best practice' offsets for achieving No Net Loss and preferably Net Gain of biodiversity. The use of good metrics or measures of biodiversity loss and gain is fundamental to being able to work towards verifiable NNL or BNG outcomes. The criteria and indicators relate directly to the BBOP principles, namely:

- 1. Developers must adhere to the mitigation hierarchy;
- 2. Limits to what can be offset must be recognized;
- 3. Projects and offsets should be planned within a landscape context;
- 4. Offsets should be designed and implemented to achieve no net loss or a net gain of biodiversity;
- 5. Offsets should achieve additional conservation outcomes;
- 6. Stakeholders should be involved effectively in design and implementation;
- 7. Offsets should be designed and implemented in an equitable manner;

- 8. Offsets should be planned to secure outcomes that last at least as long as the project's impacts and preferably in perpetuity;
- 9. Offsets should be undertaken and communicated transparently; and
- 10. The appropriate use of sound science and traditional knowledge should be documented.

Mitigation measures – at the heart of working towards BNG - are likely to succeed when (ten Kate and Crowe 2014):

- 1. Measures are in place to improve the application of the mitigation hierarchy, and not simply to plan offsets (the last step);
- 2. Clear, consistent guidance is available, for certainty and to avoid delays;
- 3. There are clear roles for national, state and local government and good coordination between government departments;
- 4. Performance monitoring and enforcement is ensured through good governance and adequate budgetary provision; clear principles and standards are in place;
- 5. Legal and financial instruments needed to secure long-term implementation are available;
- Proportionate approaches are planned, with more streamlined procedures and simpler baseline studies and metrics for less significant impacts on biodiversity, and full assessments and metrics for more significant impacts;
- 7. There is a realistic roadmap to develop the NNL/BNG system and improve it over a few years;
- 8. Preparation for implementation (including supply) takes place during the policy development phase;
- 9. Good baseline data, mapping and landscape level planning are available;
- 10. Methods that don't deliver NNL/BNG (e.g. poor metrics) are avoided;
- 11. Several options for implementation are possible, provided the same standards are met;
- 12. Perverse incentives are removed; and
- 13. Assistance is offered to parties such as developers and offset providers who need to find each other.

#### Technical Note 8: Integration of BNG into existing environmental management systems

Integration into existing management systems, having identified gaps between the current systems and the needs of environmental management systems to achieve BNG, may involve:

- 1. Incorporating new/ additional goals, performance targets and indicators into the performance objectives for key members of the executive teams and senior managers
- 2. Setting out processes for delegating authority from top to lower management
- 3. Identifying what changes to budgets, equipment, staffing, skills training that would need to be made.
- 4. Allocating clear responsibilities for implementing the BNG policy/ strategy; a systematic management process involving setting and cascading targets and performance measures.
- 5. Setting internal timelines for performance checks, checks that BNG programmes are being implemented within set timeframes, and achieving targets
- 6. Identifying gaps in terms of supporting tools and guidance that would be needed to support the implementation of BNG within business units or operating companies, considering the toolbox in Technical Note 7.
- 7. Plans, processes, controls and timelines to be put in place by CEOs of operating companies, to enable monitoring and reporting progress

Challenges that have been identified include getting the right balance between central coordination and standardising across the group, and individual Operating Company autonomy, innovation and local relevance (Kingfisher's Net Positive Report 2013/14).

Technical Note 9: Tools that support BNG planning used by specific companies			
This Toolbox contains a number of different tools which collectively would help a company work towards achieving BNG.			
Tools or guidance	Notes	<b>Examples<sup>10</sup></b> [Please also refer to links and references in Technical Notes 11 and 12]	
Identification, prioritization and management of risks at an Operating Company and Group level, is incorporated in strategic risk assessment processes and planning processes	<ul> <li>Consider biodiversity at the earliest possible stage</li> <li>Identify material biodiversity issues, impacts, risks, dependencies and opportunities</li> <li>Prioritize effort</li> </ul>	<ul> <li>Barrick Gold Corporation's corporate level review to identify potential risks based on proximity to World Heritage Sites, protected areas and other sensitive areas using the IBAT<sup>11</sup></li> <li>De Beers Biodiversity Value Assessment (BVA) and Biodiversity Overlay Assessment<sup>12</sup>.</li> <li>Lafarge's materiality matrix; three key areas – climate change, health and safety, ethics and governance</li> <li>Rio Tinto's BAP Biodiversity Values Matrix</li> <li>Rio Tinto's Group-wide Biodiversity Assessment Profile</li> <li>The British American Tobacco Biodiversity Partnership's biodiversity risk and opportunity assessment tool</li> <li>The BBOP Standard</li> </ul>	
Considering biodiversity and ecosystem services	<ul> <li>Biodiversity – composition, structure and function</li> <li>Ecosystem services - the benefits that people and companies get from biodiversity and natural systems</li> <li>Underpinning sustainable, green growth practices with sound science</li> </ul>	<ul> <li>AngloGold Ashanti (with Conservation International) has developed a model of compensation for water ecosystem services in the Nus River basin.</li> <li>De Beers Group of Companies' Biodiversity Action Plan is developed for managing biodiversity – including ecosystem services – in their mining areas.</li> <li>Rio Tinto Group's biodiversity values matrix comprises intrinsic values as well as 'service values' (food, fuel, fiber, cultural)</li> </ul>	
Considering Natural Capital	<ul> <li>Looking at the value of biophysical resources and ability of ecosystems to provide flows of goods and services such as water, medicines and food for people</li> </ul>	<ul> <li>Holcim's Biodiversity Indicator and Reporting System which represents a balance sheet of a company's 'natural capital'</li> </ul>	

<sup>&</sup>lt;sup>10</sup> These examples are not intended to be a comprehensive list of companies, or groups of companies and their tools.

<sup>&</sup>lt;sup>11</sup> <u>https://www.icmm.com/website/publications/pdfs/biodiversity/biodiversity-performance-review\_full-report</u>

<sup>&</sup>lt;sup>12</sup> To map and provide assurance regarding any overlaps between all De Beers Group operations (exploration, mining and conservation areas) and World Heritage Sites, legally designated Protected Areas and Key Biodiversity Areas

Biodiversity Action Plans for all priority areas of operation, and associated guidance	Focused on biodiversity (areas, habitats, species and ecological or evolutionary processes) and on ecosystem goods and services of importance.	<ul> <li>De Beers Biodiversity Value Assessment (BVA) methodology, Biodiversity Action Plan Guideline</li> <li>Rio Tinto's BAP Biodiversity Values Matrix, and Site Biodiversity Assessment</li> <li>The British American Tobacco Biodiversity Partnership's biodiversity risk and opportunity assessment tool</li> <li>Unilever – Biodiversity Action Plan linked to farming system</li> </ul>
Rigorous application of the mitigation hierarchy in all activities, including within ESIAs	<ul> <li>The 'heart' of BNG/ NNL/ NPI/ ZND planning (e.g. BBOP, CSBI, IFC PS6) – systematically planning actions that avoid and minimize impacts and rehabilitate harm, before offsetting.</li> <li>Timing of biodiversity considerations - mitigation efforts should be front-loaded based on risk and uncertainty</li> <li>Link between project development, biodiversity mitigation planning and financing timelines</li> </ul>	<ul> <li>De Beers Group of Companies Environmental Policy –</li></ul>
Early identification of likely 'no go' areas, areas in which biodiversity loss would be unacceptable or very high risk, and limits to what impacts could be offset	<ul> <li>Robust baseline biodiversity surveys</li> <li>Critical Habitat Assessments</li> <li>Commitments to stay out of priority conservation areas IUCN Category I-IV</li> </ul>	<ul> <li>De Beers Group of Companies: no exploration or mining within World Heritage Site Core Areas; activities in the buffer zone of a Core Area have been formally assessed and do not negatively impact the Outstanding Universal Value of the Site.</li> </ul>

		<ul> <li>Lafarge* committed not to open new sites in World Heritage, or IUCN I and III areas.</li> <li>Royal Golden Eagle companies: will identify and protect HCV areas in accordance with guidance provided by the HCV Resource Network; commit to no new development on forested peatland</li> <li>Unilever commits to 'no destroying important habitats, no hunting, poisoning or collecting rare or endangered species'.</li> </ul>
Applying a precautionary approach	Applying a risk-averse and cautious approach, taking into account the limits of current knowledge about the consequences of decisions and actions	<ul> <li>De Beers Group of Companies: 'Managing all aspects of this environmental policy as an integral part of business while adopting a precautionary approach to environmental challenges.'</li> </ul>
'Best practice' biodiversity impact assessment within ESIA process	<ul> <li>Choosing and using the right biodiversity specialists</li> <li>Assessing Intrinsic biodiversity values</li> <li>Assessing use and cultural values (ecosystem goods and services)</li> <li>Direct, indirect, cumulative impacts</li> <li>Impacts of associated activities</li> </ul>	<ul> <li>De Beers Group of Companies Biodiversity Assessment Guideline</li> <li>Energias de Portugal group is committed to Integrate the biodiversity impact assessment in all phases of its activities: project design, construction, operation and dismantlement of its energy generation and distribution infrastructures</li> </ul>
Designing and implementing biodiversity offsets to ensure BNG/ NNL/ NPI/ ZND	<ul> <li>Types of offset: protection, restoration, curbing drivers of biodiversity loss</li> <li>Biodiversity or conservation banking</li> <li>Metrics (currencies) and exchange rules</li> <li>Institutional, management and financial arrangements for implementation and long- term outcomes</li> <li>Avoiding or preventing displacement of impacts (leakage)</li> <li>Additionality of biodiversity outcomes (baselines/ counterfactuals)</li> <li>Equity and stakeholder participation</li> </ul>	<ul> <li>Rio Tinto Group's offset design tool.</li> <li>The BBOP Standard, Guidance notes and Handbooks (additional examples in Appendices 2, 12)</li> </ul>
Measuring biodiversity losses and gains	<ul> <li>Crucial to demonstrating BNG/ NNL/ NPI/ ZND</li> <li>Equivalence</li> </ul>	<ul> <li>Rio Tinto Group: Oyu Tolgoi (NPI Forecast); QMM (NPI Forecast)</li> <li>Sherritt International: Ambatovy Project (case study)</li> </ul>

	<ul> <li>Use of appropriate metrics, currencies</li> <li>Multipliers for uncertainty, time lags</li> </ul>	Strongman Mine (case study)
Biodiversity and offset management plans and programmes	<ul> <li>Ensuring that planned mitigation measures are successfully implemented</li> <li>Monitoring and evaluation, adaptive management</li> <li>Registers, data bases to record performance</li> </ul>	<ul> <li>De Beers Group of Companies Rehabilitation Planning Guideline</li> <li>Lafarge*: all quarries were to have rehabilitation plans in line with internal standards by 2015</li> <li>Lafarge*: Biodiversity Management Plans were to be in line with internal standards by 2020 and by 2015 for regions with local biodiversity sensitivity.</li> <li>Teck Resources Ltd: biodiversity management plans for each of their operations</li> </ul>
BNG/ NNL/ NPI/ ZND verification tools	To check whether goals, targets have been met	<ul> <li>Unilever verification of performance against internal code where no external standard in place. Software tool to check and record verification.</li> <li>The BBOP Standard</li> </ul>
Partnerships with international organisations	To guide the company in its activities and provide both technical and ethical assurance that it is 'on the right track'	<ul> <li>Barrick Gold Corporation partners with The Nature Conservancy</li> <li>De Beers Group of Companies partners with Flora &amp; Fauna International.</li> <li>(additional examples in Technical Note 9)</li> </ul>
Responsible sourcing, working with suppliers	Bringing supply chains on board	<ul> <li>Kingfisher, responsibly sourced timber, certification of suppliers</li> <li>Mars – working with Brazilian beef suppliers who comply with the Brazil Forest Code</li> <li>Unilever works across the value chain, from suppliers to factories to consumers</li> </ul>
Certification of environmental management systems and commodities	<ul> <li>Commitments to NNL or BNG within timeframes</li> <li>Commitment to 'continual improvement'</li> <li>Certification under commodity roundtables is considered 'best practice'</li> </ul>	<ul> <li>De Beers Group of Companies: 'Requiring all producing mines to be certified compliant with the ISO 14001 international standard for environmental management systems'</li> <li>Kingfisher's policy is that all new tropical hardwood products should be FSC certified or endorsed by schemes working towards FSC certification</li> </ul>

		Unilever's Sustainable Agriculture Code <sup>13</sup>
Biodiversity reporting and disclosure as part of sustainability reporting, use of key performance indicators	<ul> <li>Transparency</li> <li>Accountability</li> <li>Providing a consistent basis for checking biodiversity performance</li> </ul>	<ul> <li>*Holcim's Biodiversity Indicator and Reporting System allowed the company to formulate Key Performance Indicators (KPIs) on biodiversity at the local, national and/or global level</li> <li>Kingfisher Net Positive Report, indicators include % of responsibly sourced timber products, 'eco-compliance products'</li> <li>De Beers Building Forever report to society</li> </ul>
Pilot/ case studies	Undertaken before or in parallel with launching corporate approaches to NNL/NG/NPI/ZND and rolling them out to many more projects.	<ul> <li>Strongman Mine, New Zealand</li> <li>Sherritt International's Ambatovy mine, Madagascar</li> </ul>
* NB subsequent merger to Lafar	geHolcim in October 2015 and biodiversity policy is ι	under review.

<sup>&</sup>lt;sup>13</sup> Unilever sustainable agriculture code (SAC) 2010. <u>https://www.unilever.com/Images/ul-sac-v1-march-2010-spread\_tcm244-464943\_en.pdf</u>

#### Technical Note 10: Scope of draft BNG plan

A draft BNG plan is likely to include some or all of the following elements:

- a) The company's BNG vision
- b) The scope of BNG (e.g. may be part or all of value chain, apply to some or all activities )
- c) Guiding principles (e.g. the Mitigation Hierarchy, applying a precautionary approach)
- d) Clear objectives, goals, targets
- e) Different options or strategies to meet BNG objectives
- f) Significant drivers linked to company's risks and impacts in light of sustainability objectives
- g) Governance (key responsibilities and authorities well defined, clear accountability)
- h) Stakeholder engagement
- i) Monitoring and evaluation
- j) Transparency, reporting and disclosure
- k) Certification schemes
- I) Internal and external assurance mechanisms (e.g. networks, expert advisory/ review groups, partnerships with conservation organisations (Technical Note 9), etc.)
- m) Financial implications and provision to enable implementation of NPI plan
- n) Staffing, skills training and capacity building needs and programmes
- o) Provision for pilot projects to enable learning by doing.

#### Technical Note 11: BNG partnerships

Partnerships with international conservation organisations or institutions with goals in common with the company can help guide the company in its activities and provide both technical and ethical assurance that it is 'on the right track'. Partnerships may be particularly important in the absence of a regulatory framework for BNG.

Forging partnerships (e.g. Rio Tinto Group's biodiversity strategy):

- Improves the capacity to deliver
- Helps set societal expectations
- Provides a shared, common vision to advance biodiversity performance
- Has a positive influence on core business activities and
- Enables a company to tap into wider networks.

According to Conservation International and USAID, actions to facilitate effective partnerships include<sup>14</sup>

- Risk Assessment
- Engage appropriate point person
- Understand each other's business
- Establish a relationship of mutual trust and respect
- Defining measurable purpose and objectives of partnership
- Formalize Partnership: drawing up agreements
- Stakeholder identification and engagement
- Plan for funding over longer-term
- Plan Exit Strategy
- Communicating outcomes and/or results

<sup>&</sup>lt;sup>14</sup>Smuts, R. Are partnerships the key to conserving Africa's biodiversity? <u>https://www.cbd.int/impact/case-studies/cs-impact-USAID-africa-mining-conservation-en.pdf</u>

• Evaluate Partnership (accountability >>> effectiveness)

Some examples of partnerships include:

- AngloGold Ashanti works with Conservation International in Colombia.
- Barrick Gold Corporation partners with The Nature Conservancy.
- BBOP collaborates with over 80 organizations and individuals from companies, financial institutions, and government agencies and civil society organisations is striving for 'best practice' in biodiversity offsets and conservation banking around the world. BBOP has worked closely with the Ambatovy's Nickel mine in Madagascar, and with Solid Energy's Strongman Coal mine in New Zealand.
- De Beers Group of Companies has partnered with Flora & Fauna International and Conservation International.
- Rio Tinto Group's biodiversity partners include: BirdLife International, Conservation International, Earthwatch Institute, Fauna & Flora International and Royal Botanic Gardens, Kew.
- The British American Tobacco Company partners are the Earthwatch Institute, the Tropical Biology Association, Fauna and Flora International.

#### Technical Note 12: Implementing the BNG plan

"To help make sustainability part of daily decision-making, we established our Group Sustainability Committee, with representatives from the Group Executive and senior leadership from every operating company board, and we rolled out our executive education module on Net Positive to over 100 of our most senior leaders."

(Kingfisher: Net Positive Review 2014/15. Delivering our strategy sustainably; p3)

Implementation is likely to involve some or all of the following measures:

- 1. Monitoring and evaluation, and adaptive or corrective management, built into operations through EMS
- 2. Internal reviews to confirm accuracy and reliability of performance data in relation to NNL/ NPI/ ZND (self-certification/ quality assurance)
- 3. Regular engagement, collaboration and communication with internal and external stakeholders to obtain feedback and improve performance
- 4. Group internal audit to test performance, using selection of performance data from different operating companies
- 5. External, independent audits and reviews by appropriately qualified and competent people, recognised institutions and/ or an advisory committee
- 6. Reporting and disclosure
- 7. Internal and external reviews of statements in sustainability or NPI reporting
- 8. Run training and engagement programmes for staff, using guidance material and supporting tools
- 9. Sharing experiences and 'good practice' with others
- 10. Undertake pilot projects to learn by doing.

#### Technical Note 13: Useful links to further information on BNG, NNL, NPI, ZND

#### No Net Loss, Biodiversity Net Gain and Net Positive Impact initiatives, requirements and commitments

- Equator Principles Financial Institutions. <u>http://equator-principles.com/</u>
- Forum for the Future, WWF-UK, and the Climate Group: Net Positive Principles. <u>https://www.forumforthefuture.org/blog/the-many-benefits-of-being-net-positive</u>
- Forum for the Future. Net Positive: a new way of doing business. https://www.forumforthefuture.org/sites/default/files/Net%20Positive%20report.pdf
- Forum for the Future's Net Positive Impact Project. <u>https://www.forumforthefuture.org/net-positive</u>
- IFAC 2014. Innovative Organizations: Becoming Net Positive; <u>https://www.ifac.org/global-knowledge-gateway/sustainability/discussion/innovative-organizations-becoming-net-positive</u>
- IUCN ICMM 2012. Independent report on biodiversity offsets. Prepared by The Biodiversity Consultancy. Available at: <u>https://www.icmm.com/en-gb/publications/biodiversity/independent-report-on-biodiversity-offsets</u>
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<sup>&</sup>lt;sup>15</sup> A global industry network of more than 400 retailers, manufacturers, service providers, and associations <sup>16</sup> Signed in September 2014 at the UN leaders' summit on climate change. It was signed by dozens of governments (national and sub-national), companies and civil society organisations. The Declaration committed its signatories to work together toward two main outcomes:

<sup>•</sup> At least halve the rate of loss of natural forests globally by 2020 and strive to end natural forest loss by 2030.

<sup>•</sup> Restore 150 million ha of degraded landscapes and forests by 2020 and significantly increase the rate of global restoration thereafter, which would restore at least an additional 200 million hectares by 2030.

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### Technical Note 14: Business and Biodiversity Offsets Programme (BBOP) tools that support BNG planning

Tools or guidance	Notes
BBOP Principles and	• The Principles together with the Standard on Biodiversity Offsets ('the Standard'), were agreed by an international, multi-
Standard. Standard on	stakeholder group and enable clear and transparent assessment and reporting of progress in the application of the mitigation
Biodiversity Offsets.	hierarchy, including design and implementation of biodiversity offsets consistent with the BBOP Principles. The Standard is
2012.	presented as a hierarchy of Principles, Criteria and Indicators (PCI). 'Principles' are interpreted as the fundamental statements
https://www.forest-	about a desired outcome. 'Criteria' are the conditions that need to be met in order to comply with a Principle. 'Indicators' are
trends.org/bbop_pubs/st	the measurable states which allow the assessment of whether or not a particular Criterion has been met.
andard-on-biodiversity-	• The Standard is intended for the use of auditors and assessors who wish to determine whether an offset has been designed and
<u>offsets/</u>	subsequently implemented in accordance with the BBOP Principles. It is also intended for individuals designing and
	implementing biodiversity offsets, so these can be planned to meet the Standard in conjunction with other tools for offset
	design and implementation.
	• The Guidance Notes produced by BBOP assist with the assessment of whether an offset has been designed and subsequently
	implemented in conformance with the Standard on Biodiversity Offsets, which comprises the BBOP Principles, Criteria and
	Indicators. They offer an interpretation of each Indicator; key questions for assessment; factors to consider in assessing
	conformance (conformance requirements and situations that are likely to represent causes of non-conformance); as well as
	related activities from other Indicators.
BBOP Biodiversity Offset	The Offset Design Handbook presents information on a range of issues, methodologies and tools from which offset planners can
Design Handbook (2009,	select the approaches best suited to their individual circumstances. The Handbook is structured in three main parts: Part 1
updated 2012) and	introduces the scope and purpose of the Handbook and key concepts relating to biodiversity offsets. Part 2 describes a generic step-
Appendices	by-step process that can help offset planners in designing a biodiversity offset, from the initial conception of a development project
https://www.forest-	to the selection of suitable offset sites and activities. <b>Part 3</b> complements this with more detailed guidance and possible tools to use
trends.org/bbop_pubs/b	when undertaking the different offset design steps (see below). In addition, a separate document, the Appendices to the Offset
iodiversity-offset-design-	Design Handbook, provides a summary of various approaches, methods and policies that are relevant to biodiversity offsets and
handbook/	being used or developed in different parts of the world (e.g. by governments, financial institutions, etc.).
	The Offset Design Handbook describes the activities that typically form part of offset design under eight steps:
	Step 1: Reviewing project scope and activities
	Step 2: Reviewing the legal framework and / or policy context for a biodiversity offset
	Step 3: Initiating a stakeholder participation process
	Step 4: Determining the need for an offset based on residual adverse effects
	Step 5: Choosing methods to calculate loss / gain and quantify residual losses

	Step 6: Reviewing potential offset locations and activities and assess the biodiversity gains which could be achieved at each
	Step 7: Calculating offset gains and select appropriate offset locations and activities
	Step 8: Recording the offset design and enter the offset implementation process
BBOP Cost Benefit	The involvement of many different individuals and groups may be important in the design and implementation of a biodiversity
Handbook 2009	offset to ensure its fairness and success. However, the <b>Cost-Benefit Handbook</b> focuses particularly on people living in and around
https://www.forest-	the project and potential offset sites. To be successful, biodiversity offsets should compensate indigenous peoples, affected
trends.org/bbop_pubs/b	communities and other local and affected stakeholders for any residual impacts of the project on their biodiversity based livelihoods
iodiversity-offset-cost-	and amenity. They also need to deliver the offset's conservation gains without making local people worse off, for example from land
benefit-handbook/	and resource use restrictions created by the biodiversity offset, and to provide incentives and perceived benefits for local people to
	participate in delivery of the required conservation gains. This is essentially a cost-benefit comparison between the benefits to local
	people of the offset, and the costs to local people of the residual biodiversity related impacts of the project and offset. The
	Handbook explains how offset planners may use various economic tools of valuation and cost-benefit analysis to make this
	comparison and arrive at a package of benefits for local stakeholders that compensate them for residual impacts and secure their
	involvement and support for the offset. The Cost-Benefit Handbook is best used in conjunction with the other Handbooks,
	throughout the design and implementation of a biodiversity offset. Following a general introduction, the Handbook is structured in
	three main parts: Part 1 outlines four key activities (and eight steps) that offset planners can usefully undertake as part of a
	biodiversity cost-benefit assessment, Part 2 covers possible tools to use in the process, and Part 3 offers more detailed guidance
	relating to each of the activities and steps outlined in Part 1 as well as additional references to consult. A set of appendices is also
	included, such as a sample Terms of Reference for Economic Consultants, and further information on the possible cost and length of
	time required to do the studies, and on research methods and valuation techniques.
BBOP Biodiversity Offset	The success of a biodiversity offset will depend on ensuring that an effective institutional and management structure is in place; that
Implementation	financial flows are sufficient; and that systems are in place to ensure that the offset objectives are achieved. The Offset
Handbook 2009	Implementation Handbook assumes that the location of the offset area/s (in a single location, or as a composite) and the nature of
https://www.forest-	offset activities have been identified and that the planner is now seeking to put in place the mechanisms to ensure effective offset
trends.org/bbop_pubs/b	implementation, permanence and good governance. The Handbook discusses the potential roles and responsibilities of key
iodiversity-offset-	stakeholders, legal and institutional aspects of establishing an offset, and how a biodiversity offset management plan can be
implementation-	developed. Then the Handbook suggests several ways in which a biodiversity offset can be financed over the long-term, discussing
handbook/	ways to calculate the short and long-term costs of implementing the biodiversity offset, and exploring long-term funding
	mechanisms, such as the establishment of conservation trust funds and non-fund options that explore a diverse array of revenue
	sources to achieve sustainability. It addresses how a biodiversity offset can be monitored and evaluated, and the final section helps
	the offset planner prepare to launch the implementation of the offset.

	The Offset Implementation Handbook is structured in three parts: Part 1 outlines general issues to be considered in implementing a
	biodiversity offset, Part 2 provides information on possible tools to be used in the process and Part 3 offers additional and more
	detailed guidance to help with successful offset implementation
BBOP Resource Paper on	This Resource Paper updates and complements information published in the Offset Design Handbook and supports the
Limits to What Can Be	interpretation of the Biodiversity Offset Standard. The paper focuses specifically on Principle 2: 'There are limits to what can be
Offset 2012	offset'. This emphasises an important premise, namely that biodiversity offsets are not appropriate for all development impacts on
https://www.forest-	biodiversity as some impacts cannot be offset. Thus, where the residual impacts of a proposed development project are so great as
trends.org/bbop_pubs/r	to cause irreplaceable biodiversity loss (such as the global extinction of a species), no biodiversity offset would be able to
esource-paper-limits-to-	compensate for this loss, and a 'no net loss' or net gain outcome would be impossible to achieve. The paper outlines a set of
what-can-be-offset/	ecological and other factors (e.g. social, technical, financial) that can help to determine the likely 'offsetability' of impacts, i.e.
	whether impacts are likely to be easy or difficult to offset. These factors are broadly arranged according to a green-amber-red
	system of categories corresponding to the level of risk that may be expected when proposing an offset in a particular situation. It
	then describes the kind of evidence ('verifiers') that should be produced to demonstrate the offsetability of impacts for each risk
	category. The paper also offers information on specific thresholds relating to limits to what can be offset that have been set or
	indicated in different contexts (bank or government policies).
BBOP Resource Paper on	This Paper updates and complements information published in the Offset Design Handbook and supports the interpretation of the
No Net Loss and Loss-	Biodiversity Offset Standard. It specifically addresses Principle 4 (No Net Loss, 'NNL') although an understanding of NNL is relevant to
Gain Calculations	all of the ten BBOP Principles. The paper outlines the key issues that need to be considered in working towards the goal of
https://www.forest-	biodiversity offsets – i.e. achieving a NNL or net gain outcome for biodiversity. First, the meaning of NNL and its relationship to the
trends.org/bbop_pubs/r	BBOP Principles is outlined, and the paper then sets out a broad conceptual framework for approaching quantifying biodiversity
esource-paper-no-net-	losses and gains as part of an offset. A typology of currencies that may be used in loss/gain calculations is included, important
loss-and-loss-gain-	considerations when selecting reference (or benchmark) conditions are set out, and some of the key sources of risk and uncertainty
calculations-in-	in assessing biodiversity losses and gains are discussed, along with some responses that may be used to address these.
biodiversity-offsets/	
BBOP Resource Paper on	This Resource Paper considers whether and how the process of designing and delivering biodiversity offsets should be integrated
The Relationship	with impact assessment. It explains why impact assessment might be considered a suitable 'vehicle' for biodiversity offsets and
between Biodiversity	outlines its possible role. It introduces Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) and
Offsets and Impact	describes how they inter-relate in planning systems. Many businesses integrate their environmental and social impact assessment
Assessment 2009	processes in Environmental and Social Impact Assessment (ESIA) and embed these in overall Social and Environmental Management
https://www.forest-	Systems, as the paper explains.
trends.org/bbop_pubs/t	
he-relationship-	
between-biodiversity-	
offsets-and-impact-	
assessment/	

BBOP Resource Paper on	Different stakeholders may place very different values on biodiversity. Thus, effective stakeholder participation is critical to both the
Biodiversity Offsets and	success and fairness of biodiversity offsets. The aim of this paper is to explain the value and purpose of identifying stakeholders (e.g.
Stakeholder participation	communities living in the vicinity of a project, governmental officials, academic institutions, technical specialists and non-
https://www.forest-	governmental organizations) and engaging them in the design and implementation of biodiversity offsets. The paper also provides
trends.org/bbop_pubs/b	guidance on relevant good practice tools and approaches. It is intended to support the Biodiversity Offset Design, Cost-Benefit and
iodiversity-offsets-and-	Implementation Handbooks and help offset planners implement the Principles on Biodiversity Offsets by offering suggestions and
stakeholder-	source material on best practice in the participation of stakeholders in the design and implementation of biodiversity offsets
participation/	
BBOP case studies	BBOP's work is based on real experiences of the design of mitigation measures, including biodiversity offsets, in pilot projects. In
https://www.forest-	more recent years, BBOP has broadened its experience to a range of case studies shared through its Community of Practice. For
trends.org/bbop/resourc	presentations delivered at the 'To No Net Loss of Biodiversity and Beyond' Summit on 3 June 2014 and see https://www.forest-
es/	trends.org/bbop/resources/ for webinars.
BBOP Glossary	The glossary explains terms found in the Standard, Guidance Notes, Handbooks, Roadmaps and Resource Papers mentioned in this
https://www.forest-	document.
trends.org/bbop_pubs/gl	
ossary 2018	
Business Roadmap	This document on Business Planning for Biodiversity Net Gain (BNG) is the principal document to which this volume of Technical
Business Roadmap https://www.forest-	This document on Business Planning for Biodiversity Net Gain (BNG) is the principal document to which this volume of Technical Notes refers. It sets out steps to enable a company to decide whether it wishes to make the transition to activities that deliver a Net
Business Roadmap https://www.forest- trends.org/bbop_pubs/b	This document on Business Planning for Biodiversity Net Gain (BNG) is the principal document to which this volume of Technical Notes refers. It sets out steps to enable a company to decide whether it wishes to make the transition to activities that deliver a Net Gain for Biodiversity (BNG), No Net Loss or an alternative goal, and how to get there. This roadmap document does not give detailed
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Business Roadmap <u>https://www.forest-</u> <u>trends.org/bbop_pubs/b</u> <u>usiness-planning-bng</u>	This document on Business Planning for Biodiversity Net Gain (BNG) is the principal document to which this volume of Technical Notes refers. It sets out steps to enable a company to decide whether it wishes to make the transition to activities that deliver a Net Gain for Biodiversity (BNG), No Net Loss or an alternative goal, and how to get there. This roadmap document does not give detailed directions, but rather an outline with links to more help. It is based on the Plan-Do-Check-Act Cycle that forms part of the ISO 9001 Quality Management System. It does not seek to be prescriptive, understanding that different companies have different internal structures and relationships. Part 1 explains the 'why and what' of planning for BNG, including the opportunities and risks of doing so. The scope of planning for BNG can vary, and it can be approached in a number of ways. Part 2 offers actions towards BNG that businesses can take for their preferred scope, describing options including with one possible output being a company plan for BNG. This is set out in a series of steps. Part 3 offers suggestions on applying the steps described above in four different situations, each with a different scope: (1) working towards BNG at the site or project level (i.e. site by site, case by case); (2) approaching BNG by setting a corporate strategy, and working towards BNG across the group; (3) working towards BNG through its value chain (e.g.
Business Roadmap <u>https://www.forest-</u> <u>trends.org/bbop_pubs/b</u> <u>usiness-planning-bng</u>	This document on Business Planning for Biodiversity Net Gain (BNG) is the principal document to which this volume of Technical Notes refers. It sets out steps to enable a company to decide whether it wishes to make the transition to activities that deliver a Net Gain for Biodiversity (BNG), No Net Loss or an alternative goal, and how to get there. This roadmap document does not give detailed directions, but rather an outline with links to more help. It is based on the Plan-Do-Check-Act Cycle that forms part of the ISO 9001 Quality Management System. It does not seek to be prescriptive, understanding that different companies have different internal structures and relationships. Part 1 explains the 'why and what' of planning for BNG, including the opportunities and risks of doing so. The scope of planning for BNG can vary, and it can be approached in a number of ways. Part 2 offers actions towards BNG that businesses can take for their preferred scope, describing options including with one possible output being a company plan for BNG. This is set out in a series of steps. Part 3 offers suggestions on applying the steps described above in four different situations, each with a different scope: (1) working towards BNG at the site or project level (i.e. site by site, case by case); (2) approaching BNG by setting a corporate strategy, and working towards BNG across the group; (3) working towards BNG through its value chain (e.g. working with suppliers so they achieve BNG); and (4) (for financial institutions) considering BNG in its investment decisions. Part 3
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Business Roadmap <u>https://www.forest-</u> <u>trends.org/bbop_pubs/b</u> <u>usiness-planning-bng</u> The Roadmap for Government	This document on Business Planning for Biodiversity Net Gain (BNG) is the principal document to which this volume of Technical Notes refers. It sets out steps to enable a company to decide whether it wishes to make the transition to activities that deliver a Net Gain for Biodiversity (BNG), No Net Loss or an alternative goal, and how to get there. This roadmap document does not give detailed directions, but rather an outline with links to more help. It is based on the Plan-Do-Check-Act Cycle that forms part of the ISO 9001 Quality Management System. It does not seek to be prescriptive, understanding that different companies have different internal structures and relationships. Part 1 explains the 'why and what' of planning for BNG, including the opportunities and risks of doing so. The scope of planning for BNG can vary, and it can be approached in a number of ways. Part 2 offers actions towards BNG that businesses can take for their preferred scope, describing options including with one possible output being a company plan for BNG. This is set out in a series of steps. Part 3 offers suggestions on applying the steps described above in four different situations, each with a different scope: (1) working towards BNG at the site or project level (i.e. site by site, case by case); (2) approaching BNG by setting a corporate strategy, and working towards BNG across the group; (3) working towards BNG through its value chain (e.g. working with suppliers so they achieve BNG); and (4) (for financial institutions) considering BNG in its investment decisions. Part 3 gives links to more tools and information.
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governmernt-planning-	and operating a system designed to achieve a Net Gain, No Net Loss or an alternative defined outcome for biodiversity in their policy
bng	and planning. Understanding that different governments have different approaches, structures and relationships, the roadmap does
_	not offer detailed directions, but rather provides general suggestions and illustrative ideas, together with links to supplementary
	information where users can find additional practical advice. A separate document provides an Appendix with several Technical
	Notes offering supplementary information referred to throughout the Roadmap.
The Benchmark for	The intention is for this benchmark to be used to review governments' systems for mitigation (e.g. policy and governance
Government	arrangements established by each government for mitigation of impacts on biodiversity at the national, state or local government
https://www.forest-	level). It allows comparison between different governments' approaches at a point in time, and also comparison between the
trends.org/bbop_pubs/	approach of the same government at different stages in development and implementation of policy. (It is not intended that the
policy benchmark	benchmark would be applied to assess individual projects and their respective mitigation measures.)
	The benchmark is divided into two broad sections: one on the process by which policy in the country concerned is developed and
	implemented and the other on the content of the policy.
BBOP Resource Paper on	The Resource Paper shows that a natural capital account can be used to monitor whether No Net Loss (NNL) or Net Gain (NG) of
Corporate Natural	biodiversity is achieved, and to quantify the wider environmental, societal and economic co-benefits of NNL or NG. It presents a
Capital Accounting for	Corporate Natural Capital Accounting (CNCA) framework to measure and report the wider environmental impacts of applying best
Biodiversity Net Gain	practice methods (i.e. following the mitigation hierarchy) to achieve NNL/NG of biodiversity. It explains how this joint NNL/NG and
https://www.forest-	CNCA framework has been tested through a proof of concept case study. The Joint NNL/NG and CNCA balance sheet for the project
trends.org/bbop_pubs/	site and the offset site(s) under this framework shows the impact of the project development with its mitigation measures, including
resource-paper-no-net-	the biodiversity offset (or compensation).
loss-and-loss-gain-	
calculations-in-	The paper explains how the CNCA framework can be adapted to integrate NNL/NG because it is designed to inform the management
biodiversity-offsets/	of discrete areas of land. These could include both the site that's developed (the 'project site') with the mitigation measures there
	(avoidance, minimization and restoration) and the site or sites where biodiversity offsets or compensation take place (the 'offset
	site(s)'.). The framework also explicitly captures stocks, flows and costs associated with changes in natural capital. This provides a
	structure in which biodiversity information can be recorded. The accounting can be undertaken over the lifecycle of a project, in
	order to monitor whether NNL/NG is achieved and maintained. The method shows how activities to achieve No Net Loss or Net Gain
	of biodiversity can generate wider environmental, societal and economic benefit, and places a monetary value on these co-benefits.
	It explicitly records:
	a) Net changes to biodiversity (using the biodiversity metric applied to quantify losses and gains of biodiversity following the
	mitigation hierarchy).
	b) Net changes to the value of natural capital assets from combined losses and gains in biodiversity from the project and offset
	c) Changes to costs at the project and offset sites reflecting the full costs of the mitigation hierarchy
BBOD Posource Paper on	Stacking and hundling refer to different ways of packaging multiple accepters goods and convices (including hindiversity) either for
Stacking and Bundling	stacking and bundling refer to unreferit ways of packaging multiple ecosystem goods and services (including biodiversity) either for sale in environmental componsation schemes or to attract incentive based conservation funding. The tonic is of increasing interest
Stacking and bunding	sale in environmental compensation schemes of to attract incentive-based conservation funding. The topic is of increasing interest,

https://www.forest-	since companies and policy-makers hope to coordinate their work on biodiversity, carbon, water, natural capital, and social and
trends.org/bbop_pubs/	livelihood issues. An important question in policy and practice is how to maximise the benefits and limit the risks associated with
stacking and bundling	each of these multiple service-focused approaches in different contexts. The paper summarises an extensive review of the theory
	and practice of Stacking and Bundling approaches based on a number of case studies. It offers key definitions, examples of schemes
	in practice, and it outline the potential benefits and risks of different approaches. The paper highlights the challenges related to
	stacking, in particular, and offers recommendations based on a review of experience
Working for Biodiversity	This first half of the 'Overview' document explains the meaning of Biodiversity Net Gain and why it is urgent for the world to work
Net Gain: An Overview of	towards this goal. It provides a short assessment of key milestones in developments in law, policy and corporate practice on the
the Business and	mitigation of impacts on biodiversity since 2004 when BBOP was founded; a summary of BBOP's contribution to the theory and
Biodiversity Offsets	practice of avoiding, minimizing, restoring and finally offsetting residual impacts of development on biodiversity; some lessons
Programme (BBOP)	learned and a discussion of what's needed for private and public sectors and civil society to move towards Biodiversity Net Gain in
2004-2018	the future. It includes a one-page 'Call to Action' encapsulating priority actions identified by many BBOP members for wide support
https://www.forest-	and implementation by governments, companies, financial institutions and members of civil society. The second half of the
trends.org/bbop pubs/	document provides an abstract of each of BBOP's principal tools and publications, all freely available in the public domain.
overview2018	

#### Technical Note 15: Considering the level of ambition

Companies considering the appropriate level of ambition for projects or corporate policies and commitments may wish to consider the distinction between the concepts of 'No Net Loss' of biodiversity and 'Biodiversity Net Gain' (or 'Net Positive Impact' on biodiversity).

There is no consensus yet on answers to the question 'what is the difference between NNL and BNG?', and there are different schools of thought.

Some believe that there is a continuum, and BNG starts as soon as NNL (defined relative to an explicit reference scenario) has been accomplished. Others feel that BNG measurable outcomes should be defined to be at least a certain amount beyond NNL (for instance, using metrics for loss-gain, BNG should be at least NNL plus a certain percentage).

Others have pointed out that the inexactitude of measuring loss and gain of biodiversity (even with quite sophisticated metrics and explicit reference scenarios) means that precision on the fine distinction between NNL and BNG (at least, at the margins between them) is spurious, in which case a commitment to BNG as opposed to NNL is more of a philosophical preference.

IUCN's Policy on Biodiversity Offsets states that 'Only after applying the earlier steps in the mitigation hierarchy should biodiversity offsets be employed to address the residual impact in order to achieve at least No Net Loss and preferably a Net Gain at the project level.' This is in line with the BBOP Principles and Standard. The policy also states that 'Many find the terms No Net Loss and Net Gain (and, related, Net Positive Impact) confusing, with some considering Net Gain to be much greater than No Net Loss; while others feel that Net Gain may only be marginally greater than No Net Loss.' IUCN's Technical Working Group on Biodiversity Offsets recommended, among other things that 'Facilitating consistency of use and interpretation of terms such as No Net Loss and Net Gain' should be a priority for further work.

According to some schools of thought, the level of ambition (i.e. NNL or BNG) should vary according to the circumstances. Here are some examples of how this has been done:

- Some performance standards match the NNL or NG requirement to the likely level of risk and thus require a more ambitious goal for residual impacts on more highly threatened and/or irreplaceable biodiversity. For instance, the IFC's Performance Standard 6 requires its clients to plan for NNL of natural habitat 'where feasible', but requires clients to deliver a NG of critical habitat, with no such caveats. The World Bank's Environmental and Social Safeguard 6 places the same requirement on Borrowers.
- Another consideration is to match the level of ambition to the scope of the endeavour. It may be feasible to achieve BNG for an individual project, but harder to do so at the jurisdictional level, or across a company's value chains. The question of scope is discussed in Section 3 of the Business Roadmap.
- Another way to match the level of ambition to the biodiversity affected by development is to
  relate it to particular biodiversity features (e.g. ecosystems, species) and the conservation
  targets established for them, as was pioneered in South Africa and is now being adapted for
  other circumstances. In such a case, if the biodiversity to be affected by development was
  already at a level below its defined conservation target, either no development or a BNG
  outcome (if deemed feasible and measured against the target) would be appropriate. If the
  affected biodiversity was above the target, then there could be more flexibility and a NNL
  outcome might suffice.

#### Technical Note 16: Corporate Natural Capital Accounting for Biodiversity Net Gain

The Natural Capital Committee in the UK defines natural capital as: 'The elements of nature that directly and indirectly produce value or benefits to people, including ecosystems, species, freshwater, land, minerals, the air and oceans, as well as natural processes and functions. The Natural Capital Protocol (2016) defines natural capital as: 'The stock of renewable and non-renewable natural resources (e.g. plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people'. These definitions are very similar, in particular, because they include:

- Identification of individual assets (stocks), which include ecological communities, species, soils, land, freshwaters, minerals, sub-soil resources, oceans, the atmosphere;
- The benefits from those assets to people (i.e. flows, including ecosystem services), and
- The interactions between assets (reflected in the terms 'natural processes and functions' / 'combine to yield') that underpin the way assets provide benefits.

In response to concerns about the worldwide loss of natural capital, including biodiversity, and the effect this could have on the economy and people's wellbeing, governments and companies have begun to account for the gains and losses in the stock of natural capital that result from their economic activity, using methods and terminology documented in the (national) System of Environmental-Economic Accounting (SEEA, 2012)<sup>17</sup> and the (organizationally-defined) Natural Capital Protocol (2016), respectively. The Natural Capital Protocol is a framework designed to help natural capital assessments generate trusted, credible, and actionable information for business managers to inform decisions<sup>18</sup>.

Natural capital accounting can work at several levels, from national natural capital accounts, through accounts prepared for a region, city or landscape, to natural capital accounts prepared for a company or organisation. The latter can have a variety of boundaries, such as part or all of the organisation's value chain, or for one or more specific sites or projects it manages. All of these have implications for Biodiversity Net Gain, and this Technical Note focusses on the organisational level that is particularly relevant to companies.

The key benefits of accounting for natural capital arise from applying a system to organize data in accordance with natural capital definitions (as above). This:

- Enables consistent physical and monetary measurement of stocks and flows over time;
- Supports valuation (including monetary valuation) of those stocks and flows, and
- Is explicitly forward-looking, as a result of valuing assets based on the future benefits they can provide.

#### NCA methods for organisations

For companies and other individual organisations, Natural Capital Accounting can help measure impacts and dependencies on natural capital and so reflect them in decision-making. There are several different kinds of natural capital accounting for business, as the following table shows. A variety of experiences are now underway in the private sector on natural capital accounting. Many companies are working on natural

<sup>17</sup> https://seea.un.org/

<sup>&</sup>lt;sup>18</sup> <u>https://naturalcapitalcoalition.org/</u>

capital accounts in the form of Environmental Profit & Loss statements<sup>19</sup>, Triple Bottom Line Accounting<sup>20</sup>, and Corporate Natural Capital Accounting<sup>21</sup> through balance sheets. This raises questions about the link between natural capital accounting and the objectives to attain Biodiversity Net Gain/ No Net Loss (BNG/NNL), as well as understanding how emerging and innovative natural capital accounting methods do justice to biodiversity and ecosystem services. Biodiversity presents specific challenges, with its representation natural capital accounting leaving room for improvement.<sup>22</sup> Natural Capital Accounting thus encompasses a variety of national and organisational methods that help measure impacts and dependencies on natural capital in decision-making.

Methods	Description
Environmental Profit and Loss (EP&L)	Compares the scale and/or value of environmental impacts along a business value chain and is useful to identify the most material issues to inform the management of natural capital risks and opportunities across complex supply chains.
Triple Bottom Line (TBL)	Accounts for organisational performance in three distinct parts: social, environmental and financial and often provides a monetary/non-monetary overview of the current state of each category.
Corporate Natural Capital Accounting (CNCA)	Uses an accounting process to produce a balance sheet and income statement for natural capital. It can assess whether the value of natural capital assets (i.e. their ability to produce benefits into the future) is being maintained (or enhanced/ degraded).

#### **CNCA and Biodiversity Net Gain**

In the past, Corporate Natural Capital Accounts have tended to over-simplify biodiversity and its ecosystem services. Using a Biodiversity Net Gain/No Net Loss methodology, through a biodiversity metric, can improve this aspect of natural capital accounting frameworks and help organisations show credible accounts with respect to biodiversity. A natural capital account can be used to monitor whether a biodiversity goal such as Biodiversity Net Gain is achieved, and to quantify the resulting wider environmental, societal and economic co-benefits.

The CNCA and BNG methods complement one another and are enhanced when combined:

- The CNCA statements can reflect the loss of natural capital when biodiversity is damaged, and the benefits of mitigation when implementing steps of the mitigation hierarchy, including investment in a biodiversity offset.
- The use of an indicator of biodiversity from BNG/NNL assessments can help measure biodiversity in the asset register, and make net biodiversity impacts clear in a natural capital balance sheet.
- The accounts also capture reasons for the change in natural capital asset values and the distribution of these impacts, giving additional evidence to project planners and decision-makers.

<sup>&</sup>lt;sup>19</sup> E.g. <u>https://naturalcapitalcoalition.org/accounting-for-environmental-benefits-in-the-environmental-profit-and-loss/;</u> <u>https://naturalcapitalcoalition.org/methodology-report-for-novo-nordisks-environmental-profit-and-loss-account/;</u> <u>https://naturalcapitalcoalition.org/natural-capital-case-study-kering-gets-to-the-bottom-of-its-supply-chain/</u> <sup>20</sup> <u>http://triplebottomlineaccounting.com/</u>

<sup>&</sup>lt;sup>21</sup> <u>https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/516968/ncc-research-cnca-final-report.pdf;</u>

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/516971/nccresearch-cnca-guidelines.pdf; https://www.icaew.com/-/media/corporate/files/technical/sustainability/rethinkingcapitals/colin-mayer--corporate-accounting-for-natural-capital---the-natural-capital-committee-approach.ashx?la=en; https://naturalcapitalcoalition.org/the-role-of-business-in-natural-capital-accounting-the-sustainable-development-goals/ <sup>22</sup> https://www.cisl.cam.ac.uk/publications/publication-pdfs/biodiversity-and-ecosystem-services-in-corporate-naturalcapital-accounting-synthesis-report

A BBOP Resource Paper by eftec and Forest Trends presents a brief explanation of the method used to adapt a Corporate Natural Capital Accounting (CNCA) framework to measure and report on the wider environmental impacts of applying best practice methods to achieve BNG (i.e. following the mitigation hierarchy). It also shows a worked example of the integrated BNG and NC Accounting framework (the 'B-NC Account') for a case involving a project to upgrade transport infrastructure in an urban location<sup>23</sup>.

The method used was the CNCA framework developed for the Natural Capital Committee in the UK. The CNCA framework can be adapted to integrate BNG (or an alternative biodiversity goal) because it is:



- designed to inform the management of discrete areas of land which could include both the site that's developed (the 'project site') and the site(s) where mitigation (e.g. biodiversity offsets or compensation) take place (the 'offset site(s)');
- used to explicitly capture stocks, flows and costs associated with changes in natural capital, which provides a structure in which biodiversity information can also be recorded; and
- can be undertaken at different points in the lifecycle of a project, and repeated in order to monitor whether BNG is achieved and then maintained. By undertaking these activities to achieve No Net Loss or Net Gain of biodiversity, it is possible to generate wider environmental, societal and economic benefits.

The Resource Paper outlines a method for integrating information from the mitigation hierarchy on biodiversity into CNCA through an integrated BNG and CNCA framework. The result is a 'B-NC Account'. The information reported through this framework should show the initial impacts of the project with its mitigation measures and the biodiversity offset for residual impacts that follows good practice, as defined in the BBOP Principles and Standard and captured in a Biodiversity Offset Management Plan.

The B-NC Account also records and values changes in the stocks of natural capital. The natural capital assets are valued as the sum of the expected annual values of the benefits that the assets will provide into the future. However, this does not capture all the changes in biodiversity. Therefore, the B-NC account also uses a non-monetary metric to record the net biodiversity outcome (i.e. the losses and gains in biodiversity from the development and its mitigation measures, including offsets). In the case of the worked example, the official UK biodiversity metric<sup>24</sup> was used.

The primary output of the framework are the B-NC balance sheets for the project site and the offset site(s). These show the impact of the project development with its mitigation measures, including the biodiversity offset (or compensation). It explicitly records for the project and offset sites:

- Net changes to biodiversity (using the biodiversity metric applied to quantify losses and gains of biodiversity following the mitigation hierarchy).
- Net changes to the value of natural capital assets as a result of the losses and gains in biodiversity from the project and offset.
- Changes to costs at the sites, reflecting the full costs of the mitigation hierarchy.

<sup>&</sup>lt;sup>23</sup> <u>https://www.forest-trends.org/bbop\_pubs/bng-cnca</u>.

<sup>&</sup>lt;sup>24</sup> Biodiversity measurement follows government guidance in England on biodiversity offsetting (Defra, 2012). The metric combines the distinctiveness, condition and area of defined land. At the moment, only the direct losses and gains of biodiversity are covered. In the future, the metric could also cover indirect and cumulative impacts.

The balance sheet can be produced before, during and/or after a project and offset(s) are implemented, and then updated over time. It can thus be used to monitor both the biodiversity and wider natural capital impacts of a scheme. In this way, the B-NC Account can be linked to financial accounts and other project and organisational monitoring and reporting systems.

# Technical Note 17: Supplementary information on Roadmap section 3.3: Working towards BNG through the company's value chain

The following graph shows the relative significance of supply chain environmental impacts compared with direct impacts for several key industry sectors. It comes from the State of Green Business report of 2014. The 2018 update of this report assessed the natural capital cost (essentially, value of environmental impacts) of the top 1,200 companies and found that this was in excess of US \$4.1 trillion. It showed that 79 percent of this cost is embedded in the companies' supply chains, purchasing goods and services. This reveals the importance of considering impacts on biodiversity through value chains when working towards Biodiversity Net Gain.



Some of the steps that companies can take to reduce the loss of biodiversity through the value chain include:

Mapping impacts (and dependencies) across the value chain: A biodiversity-focused analysis can be quantitative but must also include a qualitative assessment matching the likely impacts across the value chain to key environmental safeguard criteria. Life Cycle Assessment methodology is often used to measure the environmental impact of the value chain associated with a product. Several approaches can support companies in mapping impacts throughout their value chain, including the Corporate Ecosystem Services Review<sup>25</sup>, the Global Biodiversity Score

<sup>&</sup>lt;sup>25</sup> <u>https://www.wri.org/publication/corporate-ecosystem-services-review</u>

(GBS)<sup>26</sup>, Environmental Profit and Loss (EP&L)<sup>27</sup> approaches, and the Healthy Ecosystem Metric<sup>28</sup>. Some of these and several other approaches under development are covered in the technical assessment prepared by the EU Business & Biodiversity Platform<sup>29</sup>. Significant data gaps are to be expected, especially for activities very distant from the company's activity across the value chain. Data collection should focus on the parts of the value chain with the highest likely impacts.

- Working with suppliers: Supplier companies can be asked to address biodiversity dependencies and impacts via procurement procedures. Biodiversity criteria can be included in purchasing and procurement procedures between companies and their suppliers. (E.g. see box on Eneco, below.)
- Reviewing risks and opportunities and then addressing them: This can be done for particular value chain impacts (and dependencies), such as those associated with a specific product, or those that use resources and materials originating from particular ecosystems. The review can explore whether there may be opportunities for innovation and improvement in relation to biodiversity. For instance, a review of the product value chain may reveal that the product life cycle can be redesigned to the benefit of biodiversity. Such activities can include:
  - Supply: Review types of supplier, their proximity and the kinds of raw materials and components they use. Activities to reduce the impacts of the supplies by reviewing procurement of raw materials, components and energy, and engaging suppliers to increase transparency on the impacts of supply chains.
  - Use: Reduce the impacts of your company's own products, services and processes, from the design stage, through material selection, use, to end-of-life management, engaging consumers, where possible. Such activities could include tweaking or redesigning production processes to reduce land use, pollution or greenhouse gas emissions upstream (e.g. minimising inputs required, substituting resources and materials, more local sourcing) or downstream (e.g. strengthening of recycling channels).
  - New Business Models: Develop new products, service systems and nature-based solutions. Activities can involve leasing assets and sharing products to escape 'take-make-waste' processes and minimise resource extraction; developing ecosystem-based products such as green roofs to support pollinators and prevent flooding in cities; establishing innovative public-private finance models to support new, greener products.
  - **Transport:** Reduce the impact of transport and distribution of processed materials and final products, for example, by shortening the value chain by purchasing more locally, avoiding invasive alien species (particularly in the aquatic environment) and reducing greenhouse gas emissions.

#### An example of biodiversity criteria in procurement: How Eneco sources certified biomass

Eneco's Bioheat installation in Utrecht will use regionally sourced biomass, partially originating from forests. Suppliers are contracted only to deliver biomass that meets the sustainability criteria of the Better Biomass Certification Scheme (NTA8080 standards). This scheme is managed by the Netherlands Standardization Institute in line with European (EN) and international (ISO) standards and includes strict criteria on the use of land with high biodiversity value, as well as articles on restoration, preservation and strengthening of biodiversity.

<sup>&</sup>lt;sup>26</sup> See Lammerant et al, 2018.

<sup>&</sup>lt;sup>27</sup> <u>https://naturalcapitalcoalition.org/tag/epl/;</u> <u>http://www.kering.com/en/sustainability/epl</u>

<sup>&</sup>lt;sup>28</sup> See Lammerant et al, 2018.

<sup>29</sup> Ibid.

#### Technical Note 18: Supplementary information on section 3.4: Working towards BNG through investment strategies and engagement

## Why work on BNG in investment decisions?

The left hand figure illustrates the relationship between biodiversity (ecosystems), business affecting and depending on biodiversity through direct footprints and supply chains (covered in sections 3.1, 3.2 and 3.3 of the Roadmap) and financial institutions (covered in section 3.4 of the roadmap).

The right hand figure from the World Economic Forum's Global Risk Framework shows that biodiversity loss and ecosystem collapse is in the upper quartile for both likelihood and magnitude of impact, according to the survey's respondents. Relationship between financial institutions, investment sectors & ecosystems. Source: Van Leenders and

#### Bor, 2016



#### WEF Global Risks Perception Survey 2017-8: The Global Risks Landscape. Source: WEF, 2018.



Top 10 risks in terms of Impact:1: Weapons of mass destruction;2: Extreme weather events;3: Natural disasters;4: Failureof climate-change mitigation and adaptation;5: Water crises;6: Cyberattacks;7: Food crises;8: Biodiversity loss and

ecosystem collapse; 9: Large-scale involuntary migration; 10: Spread of infectious diseases. **Top 10 risks in terms of Likelihood**: 1: Extreme weather events; 2: Natural disasters; 3: Cyberattacks; 4: Data fraud or theft; 5: Failure of climatechange mitigation and adaptation; 6: Large-scale involuntary migration; 7: Man-made environmental disasters; 8: Terrorist attacks; 9: Illicit trade; 10: Asset bubbles in a major economy. For biodiversity 'footprinting' by financial institutions, see Technical Note 19

#### Potential investment strategies for addressing the mitigation hierarchy for biodiversity

Depending on whether the financial institution is an asset manager or bank, activities to improve biodiversity risk and performance may include screening, voting, engagement, ESG integration, favourable loan conditions for strong biodiversity performance, biodiversity safeguards for project finance, and impact investing. These are summarized below.

A notional illustration of how these approaches can help apply the mitigation hierarchy is also shown in the following Figure. NOTE: In practice, most investment strategies will have a bearing on several steps in the mitigation hierarchy.





Source: Adapted from BBOP and ASN/Crem/Pre

#### Different approaches by investors:

- Screening: Investors can develop a set of principles and criteria to establish which sectors and companies they wish to invest in (positive screens for instance, selecting 'best in class' companies) and which ones they do not wish to invest in (negative screens). Companies' exposure to risk and the quality of their management related to biodiversity and ecosystem services can be among the criteria used to define the screens. Some investors apply screens to define their investment universe from the start, while others aim to engage with companies first and only include or exclude them once it becomes clear whether they can be persuaded to change their behaviour.
- Voting: Financial institutions can use their voting rights as shareholders to urge companies to address biodiversity risks and opportunities (and specifically Biodiversity Net Gain) in order to become more sustainable. Financial institutions can do this by voting on proposals made by the company's board, proposals made by other shareholders, or proposals made by the FI itself. Financial institutions may

wish to support votes that call for companies (particularly any 'high risk companies') to adopt, implement and report on compliance with relevant standards on biodiversity such as IFC's Performance Standards and the BBOP Standard.

- Engagement: Financial institutions can enter into dialogue with the boards or management of companies in which they are invested, to understand how they are exposed to risk and opportunity with respect to biodiversity and how they are responding. On the basis of that information, investors can encourage the companies to improve their performance, reducing their footprint (including through the value chain) and working towards a biodiversity net gain. Common topics on which FIs engage related to biodiversity include those in the Box on the next page.
- ESG integration: Investors and banks integrate biodiversity considerations in their investment decisions. This is often done by including one or more criteria related to biodiversity in the 'ESG Score' (i.e. the score of the company under consideration for investment according to a broad set of environmental, social and governance considerations). ACTIAM, for example, uses an ESG score that includes specific weightings on risks related to biodiversity. The asset manager's portfolio managers use the ESG score as input into investment decisions they believe will enable them to outperform the benchmark financially.
- Safeguards in project finance: Many financial institutions introduce safeguard policies to define the environmental and social standards required of projects seeking finance from them. For example, in 2012, the International Finance Corporation (IFC), revised its Performance Standards. Performance Standard 6 on 'Biodiversity Conservation and Sustainable Management of Living Natural Resources' requires a Net Gain of biodiversity for impacts on critical habitat, and No Net Loss of biodiversity (where feasible) for impacts on natural habitat. Equivalent standards have been adopted by the 94 financial institutions that are members of the Equator Principles Association. Similar provisions are now found in several other financial institutions' safeguard policies, such as the World Bank's Environmental and Social Safeguards.
- Favourable loan conditions: Banks may choose to offer lower interest rates for loans to companies with a good track record on the management of biodiversity risk and opportunity, or lower mortgage rates for customers investing in properties that help biodiversity conservation (e.g. green roofs). Evidence of this could be progress towards BNG.
- Impact Investing: Investors can invest in assets to achieve not only a financial return but also a measurable positive social and environmental return. For instance, they can create funds or bonds which include companies or projects that aim for positive impacts on biodiversity. Impact investments worldwide totalled about \$115 billion in 2017<sup>30</sup>, including about \$8bn in investments designed to support forests, farms, and fields. Of this, \$6.5 billion is in sustainable farming and forestry programs<sup>31</sup>, and \$1.5 billion is in programmes designed to make money explicitly by conserving habitat, restoring water systems, and supporting other ecosystem services. On top of that, another \$3.1 billion was allocated but never invested<sup>32</sup>. A new generation of impact investing could focus on a portfolio of companies working for Biodiversity Net Gain in their operations and value chains. In addition, green bonds may be able to steer investments to projects by companies and sub-sovereigns (i.e. states, provinces, cities or towns) that contribute to BNG. As an example, ACTIAM invests in a green bond from Caja Rural de Navarra, which supports financing of sustainable forest management projects.

<sup>&</sup>lt;sup>30</sup> <u>Global Impact Investing Network, 2017. Annual impact investor survey.</u>

<sup>&</sup>lt;sup>31</sup> Ecosystem Marketplace, 2016. <u>State of Private Investment in Conservation.</u>

<sup>&</sup>lt;sup>32</sup> <u>https://www.forest-trends.org/ecosystem\_marketplace/seven-lessons-decade-impact-investing/</u>

• Blended finance: Investors can make strategic use of development finance and philanthropic funds and encourage public/private partnerships to mobilise private capital to biodiversity-friendly investments, from reforestation to project supporting pollinators to ocean-cleaning technologies. An example is the 'Eco for business fund' by KfW Development Bank, Conservation International, and Finance in Motion.<sup>33</sup>

Are companies in which FI's are invested, or which they finance, taking care of issues related to biodiversity and ecosystem services? Topics FI's can raise with investee companies through screening, engagement, project finance and impact investing include:

• **Strategy:** Do investee companies have a long-term vision for sustainability that includes clear criteria for biodiversity. Specifically, are they demonstrating that company/project is they are moving towards Biodiversity Net Gain?

• Avoidance: Are companies taking measures to avoid impacts on biodiversity. For instance, working for zero net deforestation; avoidance of impacts on peat and protection of High Conservation Value Forests (HCVF); and policies banning extractive, infrastructure, logging and agricultural activities in UN World Heritage Sites, wetlands covered by the Ramsar Convention, IUCN and nationally protected areas and other areas of the highest irreplaceability and vulnerability, such as those covered by the Alliance for Zero Extinction<sup>34</sup>. Are they refraining from operating in locations where the environmental consequences of an accident for the environment are unmanageable and having effective contingency plans for crisis situations.

• **Traceability & certification:** Are companies improving the traceability of access to commodities such as palm oil, meat, soy and wood. Are they using relevant commodity-specific certification schemes, such as the RSPO, RTSS, FSC, MSC, Five Freedoms of Animals) in their own operations and/or their supply chain.

• **Rights & tenure:** Are companies obtaining Free, Prior and Informed Consent (FPIC) according to the IFC's Performance Standards. Respecting and implement the Voluntary Guidelines on the Responsible Governance of Tenure (VGGT).

• **Transparent reporting:** Do companies use internationally recognised reporting guidelines on biodiversity-related risks, their proposed strategy and measures taken under the strategy; assessment of their impact (either direct or via their supply chain) on biodiversity, including deforestation and related issues of human rights; how close they are to Biodiversity Net Gain.

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- WEF, 2018. World Economic Forum Global Risks Perception Survey 2017-18.

<sup>&</sup>lt;sup>33</sup> <u>https://www.finance-in-motion.com/funds/ecobusiness-fund/</u>

<sup>34</sup> http://zeroextinction.org/

#### **Technical note 19: Footprinting methodologies for financial institutions**

This Technical Note provides an overview of the main steps in a biodiversity footprint analysis by financial institutions ('FIs') and references to key publications. It was prepared by CREM and PRé Consultants based on the footprinting work with ASN Bank (the Netherlands) and preliminary work on a 'Common ground paper' on biodiversity footprinting for FIs, together with ASN Bank, CDC Biodiversité (France), ACTIAM (The Netherlands) and Finance in Motion (Germany) to be published in November 2018.

#### Introduction

Over the years, a wide variety of tools have been developed to assess the impact of economic activities on biodiversity, providing businesses with an insight in their positive and negative impacts. Some tools can also be used by financial institutions (FIs) to assess the (indirect) impact of investments in economic activities. The result can be used to develop biodiversity-related investment criteria and to work towards a biodiversity objective like Biodiversity Net Gain or No Net Loss. The limited number of biodiversity footprinting initiatives by FIs to date shows that there is no 'one size fits all' when it comes to biodiversity footprinting. Conducting a biodiversity footprint on the level of an investment portfolio requires a different approach from assessment of a biodiversity footprint at the level of a single company or project. In the latter case, an investor may want to take into account location-specific characteristics such as the level of biodiversity in the impact area, the effect of economic activities on local water tables and the combined effect of other economic activities in the same area. At a portfolio level, this level of detail would result in a lengthy and very costly impact assessment.

The biodiversity impact assessment tools currently available to FIs may differ with respect to the objective of the assessment, the data used, the way in which environmental impacts are translated into impacts on biodiversity and the indicator or unit used to express the impact on biodiversity or the level of intactness of biodiversity. This variety in methodologies and approaches is increasingly leading to discussions about their use, the level of accuracy of the result and how the result can be used to influence management decisions. However, a closer look at many of these methodologies also shows that there is a lot of common ground underlying the methodologies, such as which drivers of biodiversity loss are included and the way in which environmental impacts are translated into impacts on biodiversity.

In the last three years, ASN bank (The Netherlands) and CDC Biodiversité (France) have invested considerable time into the development of biodiversity footprinting methodologies that fit their objectives. Although the resulting methodologies are different, the approaches show considrable similarity. At the start of 2018, ASN Bank and CDC Biodiversité, together with ACTIAM and Finance in Motion, agreed to share experiences in biodiversity footprinting and explore the common ground between the two footprinting methodologies. The objective was to learn from each other and to see whether a paper could be developed providing an overview of ground rules that could be used as a starting point for any FI that wants to work on a biodiversity footprint.

#### **Overview of methodological steps**

In order to assess the impact of investments/loans on biodiversity three steps can be distinguished, each using a methodology and/or dataset:

1. Analysis of the <u>focus of the investment</u>: what do we know about the economic activities of the investee, where do activities take place?

- Analysis of the <u>environmental pressures</u> induced by the economic activities invested in, including land use, land transformation, water use, greenhouse gas emissions, and other emissions to air, water and soil. This step results in an overview of environmental pressures on a 'midpoint level' like climate change, ecotoxicity, acidification and eutrophication.
- 3. Analysis of the impact on <u>biodiversity</u> ('endpoint level') resulting from these environmental pressures.
- 4. <u>Interpretation</u> of the footprint results.

The output of step 1 is needed as an input for step 2 and the output of step 2 is needed as an input for step 3. This means that a methodological decision in one step will influence the decisions in the other two steps. For example, the decision to use a location-specific impact assessment methodology in step 3 will lead to the need for location-specific data in step 1.

N.B.: Different footprinting methodologies can be used in combination or in consecutive order. For example, the ReCiPe methodology and the Exiobase data could be used to assess the impact on biodiversity of an investment portfolio to identify biodiversity impact 'hotspots'. The Globio methodology, which allows the inclusion of location-specific impact factors, could then be used to zoom in on impacts at a location-specific level.

#### Methodology and decisions in steps 1-4:

#### Step 1: From an investment to economic activities

#### Characterisation of the investment

Investment in a company generally supports the production of products and services. While constructing the production equipment (like manufacturing machines) will have impacts on its own, the biggest environmental impacts are usually in the value chain leading up to the production. While the data available from FIs is generally on investments in particular companies, projects or funds, databases like Exiobase and ecoinvent need data per sector and per country as an input. This means that a link needs to be created between the investment in a company and the sector(s) and countries of operation.

To provide this link, one needs to understand what production is being supported by each investment (i.e. which products and services in which sectors) and where the production takes place (in which countries). Characterising this can be quite an effort, as one generally needs to rely on corporate reports if the FI does not have this information readily available. For other types of investments, such as investments in government bonds, linking the investment to a database will also depend on the information in the database. For example, a dataset like Exiobase has data available on the activities governments generate through their funding. This information can be used as a basis for the identification of activities funded through state bonds.

#### Scopes included in the analysis

An important question when calculating the biodiversity footprint of an investment is to what extent the FI investing also needs to be held (or feels) responsible for the impacts in the value chain(s) of the company invested in. For example, an investment in a sportswear brand may be treated as an investment in a retailer when the sportswear brand does not produce the products itself. However, one might also argue that by investing in the brand, the FI is indirectly also responsible for the production of the sportswear products and the materials used in these products (e.g. cotton and leather). In other words: what part of the value chain or 'scopes' are included in the footprint calculation? The impact on

biodiversity is typically highest in primary production, like agriculture and mining. This is where land use and land use change are usually the highest. However, when the FI conducting the footprint is not financing the economic activities in scope 3, inclusion of the biodiversity impacts in scope 3 will lead to double counting if other investors investing in the same supply chain (e.g. investing in scope 3 activities) also calculate their footprint.

It is up to the FI conducting the footprint to decide on the scopes included in the footprint calculation. The FI should always be transparent about the decisions made, the rationale behind these decisions and the consequences for the interpretation of the results.

#### Attribution and responsibility

When assessing impacts through the value chain, clear rules are necessary to attribute the impacts to each stakeholder involved. In general, attribution can be based on *financial control* (e.g. controlling more than 50% of the voting right of an operation leads to an attribution of 100% of the impact of the operation), *operational control* (e.g. full authority to introduce and implement operating policies leads to 100% attribution) or *share of the assets owned*: the biodiversity impact is attributed according to the share (*pro rata*) of the assets owned (debt and equity)<sup>35</sup>. For financial institutions, the attribution approach followed by the Platform Carbon Accounting Financials (PCAF) provides a valuable example:

- Follow the money is a key principle for footprinting of financial assets, i.e. the money should be followed as far as possible to understand and account for the carbon impact in the real economy.
- In principle scope 1, 2 and relevant categories of scope 3 of the investee should be included in the carbon footprint. When deviating from this (e.g. when scope 3 is not relevant), it should be made clear why.
- Influence of the financial institutions on steering the investment, if the influence is bigger, also the proportional share for accounting the footprint to the investment is larger.
- The denominator, i.e. the financial value of the asset that, in relation to the investment, determine the proportional share for accounting the carbon footprint, should include all financial flows (i.e. equity and debt) to the investee as much as possible. When deviating from this, it should be made clear why.

This approach can be applied to a biodiversity footprint as well.

When the characterization, scope and attribution are clear, the environmental pressures attributed to the investment of the FI can be calculated in step 2.

#### Step 2: From economic activity to environmental pressures

Data on the inputs (e.g. resource use, land use, water use) and outputs (emissions) of economic activities can either be derived from primary data from a company or project, or can be based on existing data in databases. Many of these databases, like Exiobase, are so-called 'Extended Input-Output (IO)' databases. Traditionally, these databases specify the economic and sometimes physical flows between economic sectors in a country and between countries. The term 'extended' refers to the fact that social and environmental data are added to each sector and each country (e.g. greenhouse gas emissions from the textiles sector in Turkey). While Extended IO databases provide a complete impact overview of all activities; the activities themselves are not always very specific. In these databases, all companies

<sup>&</sup>lt;sup>35</sup> The GHG Protocol considers only the share of equity because it focuses on non-financial institutions. For FIs however, the appropriate measure of asset ownership is the sum of debt and equity.

operating in the same sector are supposed to create the same environmental pressures per dollar value created. As such, it is not possible to make a distinction between companies with a very good or a very bad sustainability performance. Moreover, the level of detail of the sector definitions may be limited, e.g. 'textiles' instead of 'textiles from cotton' or 'textiles from polyester'.

In step 2, the direct data or the data from these databases are used to calculate the environmental pressures induced by the economic activities an FI invests in. These environmental pressures, such as climate change, acidification or eutrophication, are referred to as pressures at 'midpoint' level. These pressures at midpoint level result in impacts at 'endpoint' level, such as the impact on biodiversity or ecosystem quality or the impact on human health.

#### Step 3: From environmental pressures to the impact on biodiversity

Several methodologies can be used to calculate the impact on biodiversity resulting from environmental pressures such as climate change, land use, water use and emissions. This calculation is based on 'pressure-impact' or 'dose-response' relations, e.g. the impact on biodiversity of a 1 degree Celsius rise in temperature. These pressure-impact relations are derived from scientific research. The ReCiPe and Globio methodologies are examples of using this approach.

Most methodologies do not cover every impact driver. For example, ReCiPe and Globio fail to capture the introduction of invasive species in a quantifiable way. A complementary qualitative analysis is therefore necessary to assess the significance of impacts not covered by a quantified footprint calculation and to enable a correct interpretation of the quantitative footprint results.

#### Step 4: Interpretation of the footprint results

Any quantitative biodiversity footprint will have its limitations from the viewpoint of the characterisation of the economic activities invested in, the data available/used to assess the environmental pressures and the pressure-impact models used to calculate the impact on biodiversity. These limitations should be recognised, reported and taken into consideration in the interpretation and use of the footprint results. A qualitative analysis should be conducted to assess to what extent the quantitative analysis covers all biodiversity impacts that might be relevant and significant. This analysis can consists of two parts:

- An identification of the general limitations of the quantitative analysis, relevant to all economic activities assessed (all sectors or investments);
- A sector-specific qualitative analysis focusing on sector specific issues regarding biodiversity impacts which may not be (fully) covered by the quantitative analysis. This analysis focusses on the sectors included in the footprint, e.g. the sectors an FI invests in.

The results of the qualitative analysis can be used:

- to adjust the score from the quantitative analysis (increase or reduction of the score);
- to take into account the reasons for a potentially higher or lower impact score by means of
  investment criteria addressing these reasons, thereby reducing (or increasing, respectively) the
  chances that the score (at a specific location) will indeed be higher (or lower, respectively). For
  example, the fact that an economic activity may take place in or close to a high conservation
  value area (HCVA) is a risk factor potentially affecting the impact on biodiversity. This is not
  covered by most footprinting methodologies. By either not investing in economic activities at
  such a location (exclusion/divestment) or requiring a biodiversity management plan from

businesses operating at such a location, the risk can be excluded or minimised. As a result, this factor is no longer relevant in the calculation of the footprint.

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#### Technical Note 20: Useful links to further information on different BNG tools

#### **Applying the Mitigation Hierarchy**

- BBOP (various publications having the mitigation hierarchy as a central theme. *Technical* Note 12. <u>https://www.forest-trends.org/bbop/bbop-key-concepts/what-do-you-need-to-know/;</u>
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#### Respecting limits to acceptable biodiversity loss, what can be offset

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- IUCN Key Biodiversity Areas standard, final consultation. <u>http://www.kbaconsultation.org/#!kba-</u>criteria/cpdb
- Rio Tinto QMM's Biodiversity, Communities and Social Performance Multi Year Plan <u>https://www.riotinto.com/documents/RT\_Biodiversity\_and\_CSP\_multi\_year\_plan\_2016-2021.pdf</u>
- RobecoSAM Corporate Sustainability Assessment DJSI Sustainability Assessment 2015. <u>http://www.robecosam.com/en/sustainability-insights/about-sustainability/robecosam-corporate-sustainability-assessment.jsp</u>
- The British American Tobacco Biodiversity Partnership's biodiversity risk and opportunity assessment tool; <u>http://www.businessandbiodiversity.org/</u>
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#### Applying a precautionary approach to biodiversity impacts and risks

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