Business Planning for Biodiversity Net Gain: A Roadmap






BBOP
Business and Biodiversity Offsets Programme

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About this Document

This roadmap for business has been prepared by the Business and Biodiversity Offsets Programme (BBOP)[1]. 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, the members that developed and applied draft versions of the Standard and other tools as they were developed.

To learn more, see: https://www.forest-trends.org/bbop/

[1] The first draft of this document was prepared by Susie Brownlie and Kerry ten Kate and subsequently revised by Kerry ten Kate with input from Julia Baker, Joshua Berger, Anne-Marie Bor, Wijnand Broer, Frederique Desmoulins, Steven Dickinson, Mark Goedkoop, Colette Grosscurt, Amrei von Hase, Patrick Maguire and Roel Nozeman.

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Business Planning for Biodiversity Net Gain: a Roadmap

Purpose and contents

The steps set out in this document enable a company to decide whether it wishes to make the transition to activities that deliver a ***Net Gain*** for ***Biodiversity*** (BNG) - or at least No Net Loss - and how to get there. This roadmap document does not give detailed directions, but 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, as shown in Diagram 1. It does not seek to be prescriptive, understanding that different companies have different internal structures, products and relationships.

Figure 1: PDCA

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 characterised in this document as:

A. Commit to BNG in **individual operations** and partnerships at the **site or project level**;

B. Aspire to apply BNG **across their business**;

C. Encourage BNG through their **value chain**; and/or

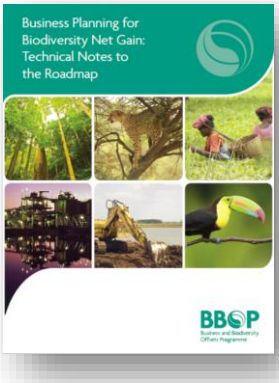
D. Support BNG **as financial institutions** through their **investment strategy** and **engagement**.

Part 2 offers **actions towards BNG** that businesses can take for their preferred scope, with one possible output being a company plan for BNG. This is set out in a series of steps and notes some distinctions between different approaches that can be taken.

Part 3 offers suggestions as to how to apply the steps described in Part 2 in **four situations** (A to D, above), each with a **different scope**.

Part 4 offers **additional resources** and links to more tools and information.

The next page sets out some key definitions and a **separate document** contains explanatory information in **TECHNICAL NOTES** referred to throughout this document. (The list of Technical Notes appears in Figure 9 on page 25.)



Box 1: Quick reference definitions*

Biodiversity: The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species (genetic diversity), between species and of ecosystems.

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 undertake on-site restoration and finally to offset the residual impacts, to the extent that the gain exceeds the loss.

For companies, the goal may be 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. (See section 3.)

Ecosystem Services: The benefits people obtain from ecosystems. These include provisioning services such as food, water, timber, and fibre; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling.

Mitigation Hierarchy: The mitigation hierarchy is defined as:

a. Avoidance: 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. Rehabilitation/restoration: 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 no net loss or a net gain of biodiversity. Offsets can take the form of positive management interventions such as restoration of degraded habitat, arrested degradation or averted risk, 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.

Natural Capital: Natural capital refers to 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 (or 'services') to people.

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 undertake on-site restoration and finally to offset the residual impacts, so that no overall loss remains. See Biodiversity Net Gain.

***See also BBOP Glossary for many more related terms and definitions and TECHNICAL NOTE 1.**

Part 1. Biodiversity Net Gain for business: what and why?

This part of the document explains the 'why and what' of planning for BNG, including the opportunities and risks of doing so.

1.1 What is 'Biodiversity Net Gain' in companies' operations and supply chains?

Biodiversity Net Gain (BNG)[2], simply stated, means leaving biodiversity better off following development activity, compared with a clear reference scenario. By anticipating, recognising and effectively managing its biodiversity impacts, a company can move towards demonstrating an overall benefit for biodiversity. Robust approaches to Biodiversity Net Gain all share the same principles and management frameworks for prioritising and implementing mitigation actions – sequentially avoiding, minimising and repairing impacts on biodiversity, and offsetting remaining negative impacts. For the sake of clarity, definitions of the main terms are given in brief in section 3.3 (and in more detail in TECHNICAL NOTE 1).

Numerous companies have made public statements related to the concept of 'Net Positive' or 'Net Gain' as part of their sustainable development goals and some have explicit biodiversity commitments (in in TECHNICAL NOTE 3). Specifically aiming for BNG sends a clear message that the company takes sustainability seriously and is doing what is in line with emerging 'best practice'. It also demonstrates leadership, moving from **doing less harm** towards **doing overall good for biodiversity**. BNG can be applied from pre-feasibility through operations to post-closure at various levels, from project to group level (TECHNICAL NOTE 3).

Companies working towards BNG often have public statements setting out their approach and commitment, and should have in place management systems to deliver their goals using reliable, appropriate and transparent measures, for example by integrating it into planning procedures, environmental and social impact assessments (ESIAs), staff responsibilities, monitoring and reporting protocols, and budgets (See TECHNICAL NOTE 4).

Some companies must already work towards BNG on individual projects in response to regulations or to meet performance standards set by lenders (e.g. International Finance Corporation Performance Standard 6, IFC PS6). The growing number of such regulations, biodiversity performance benchmarks, and financial institutions' standards requires better management of biodiversity than was typical for projects in the past. Some companies have chosen voluntarily to work towards BNG (See TECHNICAL NOTE 2), taking a positive and proactive approach independently from responding to regulations and loan conditions. This can enable them to minimize future regulatory, reputational, operational, financial and market/ product risks.

[2] BNG is sometimes described as Net Positive Impact (NPI) or Net Gain. It is a step beyond achieving No Net Loss (NNL) or Zero Net Deforestation (ZND). Some definitions are in Box 1 of this document and more detail in TECHNICAL NOTE 1.

Box 2: The relationship between Biodiversity Net Gain, 'dependence' on biodiversity, and pro-biodiversity business

Dependence and BNG: In managing business risks and opportunities associated with biodiversity and ecosystem services it is good practice for a company to address its dependencies as well as its impacts on biodiversity. Many businesses depend significantly on biodiversity. For instance, companies in agriculture, fisheries, forestry, bioscience and downstream of these in processing, manufacturing and retail rely on biodiversity for raw materials. Dependence is thus a dominant factor for such companies in their business case for addressing biodiversity. However, BNG refers to net gain with respect to impacts. This roadmap focuses on impacts but also refers to dependencies, when relevant, in terms of motivation and management.

Pro-biodiversity business and BNG:

A growing wave of pro-biodiversity business and innovation is focussing on the business opportunities of enhancing biodiversity and using it for inspiration (e.g. biomimicry), for biomaterials and for industrial processes that contribute to the green economy. This is quite different from BNG, since to justify claims of being 'net positive', companies and investors must address their footprints and apply the mitigation hierarchy thoroughly, following 'avoid and minimise impacts, restore, then offset' to work towards the goal of BNG. See TECHNICAL NOTE 3.

How does BNG planning relate to sustainability and other initiatives?

The need for 'no net loss' or a 'net positive outcome' is promoted by the United Nations 2030 Sustainable Development Agenda and associated Sustainable Development Goals (SDGs) 14 & 15 for marine and terrestrial biodiversity respectively. SDG 15, for instance, calls for governments to 'halt the loss of biodiversity'. Many of the management objectives and procedures to reach BNG are shared with similar ones related to sustainability more broadly. In addition, companies are increasingly guided in their strategic planning by a recognition of planetary boundaries. Nine critical processes of the Earth system together present a set of boundary conditions that represent ecological constraints within which economic activity must take place to remain within safe limits for these processes to be in a stable state.[3] Three of these boundaries – rate of biodiversity loss, nitrogen cycles and climate change – have already been crossed, underpinning the urgency of planning for Biodiversity Net Gain.

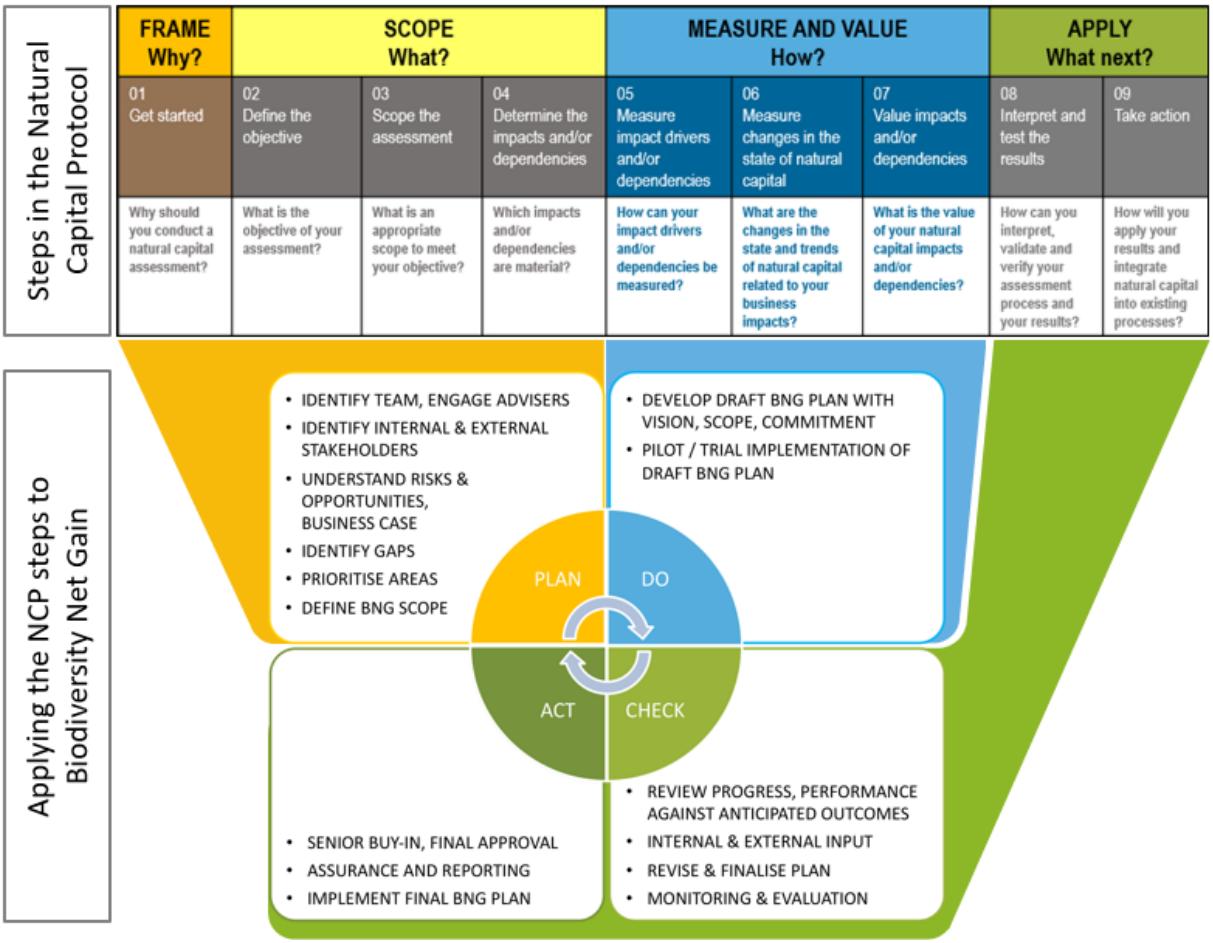
Many companies are now inspired to action by the Natural Capital Protocol, which is a framework designed to help generate trusted, credible, and actionable information for business managers to inform decisions. This business planning document applies the steps in the Natural Capital Protocol to the goal of achieving specific outcomes (net gain, or other) for biodiversity, as Figure 2 shows.

Companies are likely to be taking some of the steps needed for BNG already and can integrate the additional steps with existing initiatives for a streamlined approach: a commitment to BNG could be included in an environmental, sustainability or Corporate Social Responsibility policy; BNG requirements can be included in

[3] According to Rockström et al. in Nature (2009) these nine critical Earth-system processes and their associated thresholds are: climate change, rate of biodiversity loss (terrestrial and marine); interference with the nitrogen (N) and phosphorous (P) cycles (due largely to artificial fertilizers and industrial agricultural practices); stratospheric ozone depletion; ocean acidification; global freshwater use; change in land use; chemical pollution, and atmospheric aerosol loading.

Terms of Reference for ESIA; key performance indicators of relevant staff can refer to BNG planning; and BNG performance may be reported in accordance with sustainability reporting standards (e.g. GRI 4; TECHNICAL NOTE 5). Corporate Natural Capital Accounts can also be linked to BNG planning (TECHNICAL NOTE 17). The concept of 'continual improvement' (e.g. in the PDCA cycle) is embedded in many companies' operations through Environmental Management Systems (EMS) such as ISO 14001, providing a context for moving towards BNG. Several initiatives in which companies participate (e.g. IFC, BBOP, IUCN, CSBI, ICMM, IPIECA, FFF) have published tools, reports and sources of information that can support companies planning for BNG, and complement typical approaches to sustainability. Increasingly, companies are paying attention to better management of biodiversity and ***ecosystem services***; striving for BNG allows companies to set and check the outcomes of management more explicitly, thus improving sustainability performance.

Figure 2: Applying the steps in the Natural Capital Protocol to Biodiversity Net Gain



Box 3: Biodiversity, ecosystem services and natural capital: why consider biodiversity?

A company may already be undertaking a natural capital assessment or taking steps to conform to ISO14001. In these and other circumstances, why consider biodiversity?

Natural capital assessments are useful. They provide businesses with a broad review of environmental performance including carbon, water and air quality. But many assessments do not fully cover business risks and opportunities from biodiversity. In addition, assessments that include a broad set of natural capital assets can allow some assets to benefit at the expense of others. Similarly, while biodiversity and ecosystem services are an explicit part of ISO14001, they are typically only covered in general terms.

Specifically considering biodiversity will help companies to capture all relevant risks and opportunities from their impacts and dependencies on biodiversity.

What are the opportunities and risks in planning for Biodiversity Net Gain?

It is helpful for companies to understand the implications of planning for BNG, including risks and opportunities involved in adopting such a commitment or simply planning for BNG on a case-by-case basis (see Table 1). The support of senior executives and Board members is crucial. Risks and opportunities vary according to the sector and area of operation: a company may have impacts on biodiversity directly through its activities, or indirectly through its supply chains. The main drivers of opportunity and risk for biodiversity are given in TECHNICAL NOTE 3, together with some of the challenges for achieving BNG.

A selection of specific BNG issues is set out here:

Table 1: Opportunities and Risks of planning for Biodiversity Net Gain

Opportunities	Risks
Improved licence to operate and trust from stakeholders; competitive 'partner of choice' advantages; credible reputation for sound and transparent best practice in biodiversity management; maintain access to land and resources; avoid planning delays and law suits.	Risk to company reputation if it commits to something it cannot achieve.
Be 'ahead of the game' in anticipating and meeting biodiversity requirements of regulators, financial institutions and stakeholders.	Competitive disadvantage (e.g. greater costs) if standards higher than some peers. May be capacity constraints to pursuing BNG.
Improve accountability by making clear the intention to move towards BNG through systematic and transparent planning.	May be difficult to attain BNG in practice in some locations. Challenge of control over supply chain and ensuring suppliers secure BNG.
Cost-effective and timely responses to mitigating impacts; favouring avoidance over more costly -and in some cases uncertain outcomes of - offsetting, and avoiding delays caused by protests about biodiversity impacts. A Corporate Natural Capital Account for BNG can reveal the monetary value of co-benefits (e.g. carbon sequestration, air pollution abatement, recreation) that arise from BNG. It also offers the advantages from bringing together biodiversity and natural capital planning.	Additional costs and extra time for extra specialist studies, BNG planning, measuring and reporting and for providing any offsets. There may be situations where avoidance is more onerous and costly than offsetting but essential to achieve BNG.
NOTE: See TECHNICAL NOTE 3 for more information on the general business case for managing biodiversity risk and opportunity, ranging from being an attractive employer to maintaining a stable environment to support the economy.	

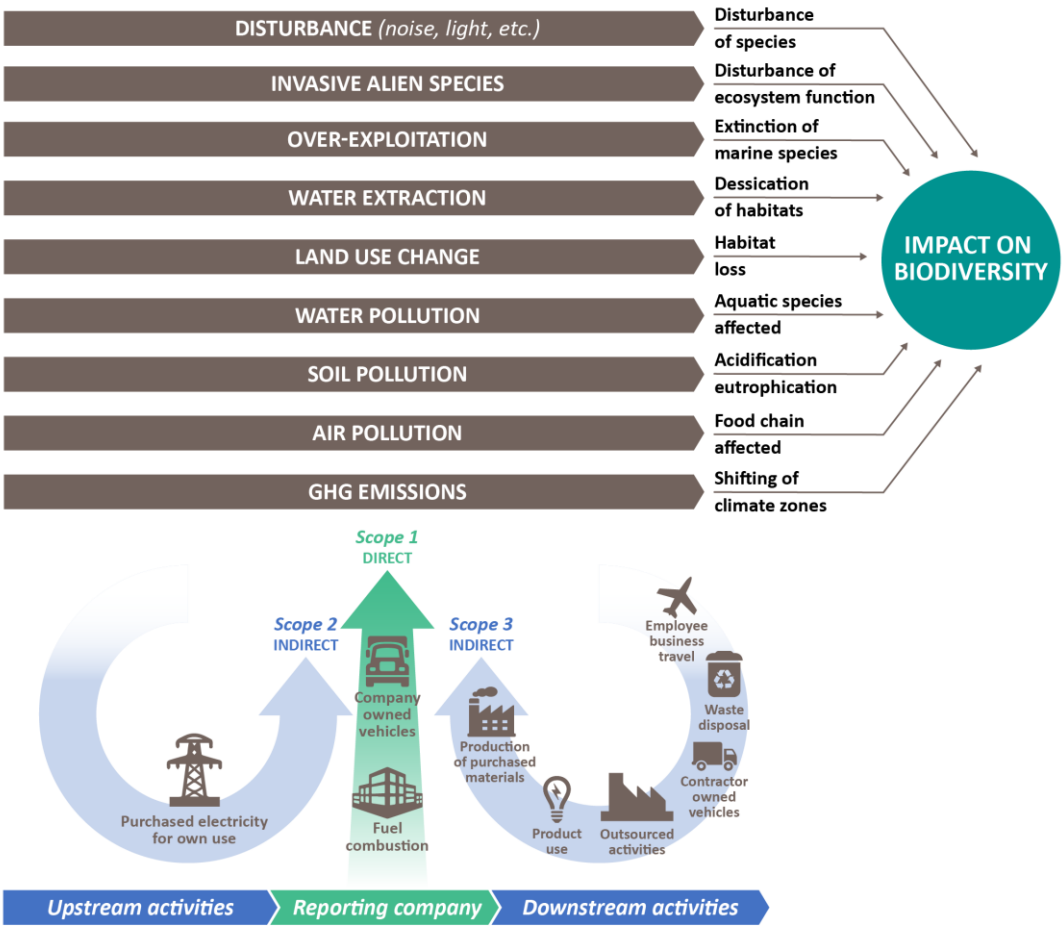
Companies now have access to a wealth of biodiversity data and powerful technologies (e.g. remote sensing, GIS and modelling tools) to enable them to understand the biodiversity implications of their operations and supply chains. These new capacities can help companies to pursue BNG goals.

What scope to set and what approach to take to BNG?

As Table 2 shows, businesses can choose from a variety of options for the scale of endeavour and approach they take to BNG. Part 2 of this document will help businesses establish the scope and approach that makes the best sense for their company and establish an appropriate plan for BNG.

Table 2: Options for the scope and approach to BNG		
Control over impacts and sectors particularly affected:	**Scale of endeavour. A company could:**	**Extra information is in section:**
The company's **own impacts** through **converting or modifying habitat**. For example, seeking BNG when clearing land or marine areas. *Particularly relevant to these sectors:* Energy, extractives, infrastructure, construction, housebuilding, agriculture, forestry, fisheries.	• Focus on working towards BNG at the **site or project level** (i.e. site by site, case by case); and/or	**3.1**
	• Approach BNG by setting a corporate strategy, and working towards BNG **across the group**; and/or	**3.2**
Impacts through the **value chain.** Companies may seek BNG for impacts caused by sourcing materials such as palm oil from **suppliers**. *Particularly relevant to these sectors:* Food and beverages; apparel; consumer goods; retail; engineering.	• Approach BNG by setting a corporate strategy, and working towards BNG through its **value chain** (e.g. working with suppliers so they achieve BNG); and/or	**3.3**
Impacts through investment. **Financial institutions** may seek BNG for the impacts on biodiversity through their investment decisions and engagement. *Particularly relevant to these sectors:* Financial services.	• Consider BNG in its **investment decisions** and **engagement.**	**3.4**

Figure 3: Relationship between companies' scopes of activities, their effects on the environment and the resulting impact on biodiversity

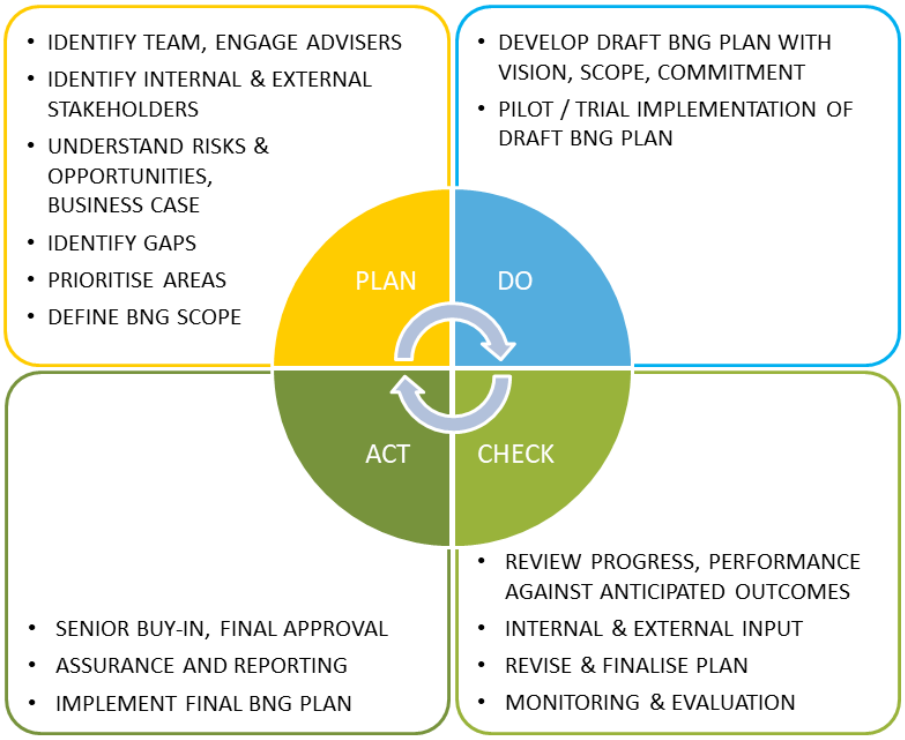


Source: Adapted from Lammerant et al (2014) and GreenHouseGas Protocol (2014)

Part 2: How to work towards Biodiversity Net Gain?

This part of the document offers **actions towards BNG** that businesses can take for their preferred scope, with one possible output being a company plan for BNG. This is set out in a series of steps pointing out some distinctions between different approaches that can be taken.

Figure 4. BNG planning and implementation steps in the 'PDCA' cycle



2.1 PLAN: Plan the scope of the Biodiversity Net Gain initiative for your company

(Set intended outcomes and ambition levels, define scope, engage, assess risks & opportunities, gap analysis, prioritise, integrate into environmental management systems)

Note: Several activities presented under this step depend upon each other. For instance, an assessment of opportunities and risks helps establish the ambition level and business case for BNG, but at the same time, a more definitive opportunity/risk assessment can be done once initial ideas have been developed on options for the ambition level. This means that some activities may need to be undertaken iteratively or in parallel, hence they are not numbered as sequential steps below.

Review then set intended outcomes and ambition levels

- **Set scale of ambition in terms of the scope of activities covered:** Having regard to impacts and dependencies on biodiversity, determine whether the most relevant approach to BNG is to establish:
    - **Project or product commitment:** a commitment to plan individual projects or products to achieve BNG; and/or
    - **Company aspiration:** a company-wide goal of working towards BNG; and/or

- **Supplier encouragement:** a programme of working with key suppliers to help them achieve BNG; and/or
- **Investment action:** activity by financial institutions to include BNG in investment strategies and engagement with companies which they finance or in which they invest.

(NOTE: **Section 3** considers these different options for desired scope of BNG planning.)

- **Decide on the level of ambition, e.g. BNG or NNL:** For simplicity, this document refers to Biodiversity Net Gain. However, part of setting the company's ambition is deciding whether the aim is for BNG, for the less demanding goal of 'No Net Loss', or another similar goal. TECHNICAL NOTE 16 discusses the different views on the distinction between these.
- **Intended outcomes:** Decide whether the desired outcome is a **company plan for moving towards BNG**, or a more preliminary outcome, such as an initial review of opportunity and risk.

These are defining steps linked to company strategy, and the CEO and environmental directors, amongst others, should be involved.

Understand the opportunities and risks, and the business case

- **Decide whether BNG planning will help in the context of opportunities and risks:** Understand the biodiversity and ecosystem services values affected by the company's operations, the risks and opportunities this creates for company's activities, and evaluate whether BNG is likely to be a practical and helpful business goal (TECHNICAL NOTE 3). Companies use a range of tools to assess risks, opportunities, impacts and dependencies (TECHNICAL NOTE 4) from which to develop the business case for BNG. It is useful to:
  - Assess values and risks across business/ operating units, and areas and sites of operation.
  - Assess values and risks through supply chains.
  - Decide whether biodiversity and ecosystem services are a material risk.
  - Explore opportunities to align BNG planning with natural capital assessment (e.g. through Corporate Natural Capital Accounts).

Identify gaps

- **Analyse the main gaps** between the company's current commitments, practices and management tools, and what it would need to work towards BNG, drawing on Technical Note 7 for direction. Key gaps should be identified across activities, business units, areas of operation and supply chains.

Define scope of BNG based on ambition level

- **Define the desired scope** of BNG planning, taking into account identified gaps. This may include deciding on:
  a) The range of biodiversity to which BNG will apply (e.g. species, habitats, biotopes, etc.)
  b) The range of activities or business units to be covered (e.g. apply to exploration, acquisitions, operations, supply chains, etc.)
  c) The range of areas (e.g. may only be specific geographic areas)
  d) Which drivers that cause biodiversity loss and degradation to include (e.g. whether to focus on land cover and land use change only or whether to include effects on biodiversity due to the company's carbon footprint, its contribution to water scarcity, acidification and eutrophication, etc.). The decision could be based on the significance of different drivers in terms of contribution to the company's impacts on biodiversity and whether they are already addressed by the company through other processes such as carbon management and stakeholder engagement).
  e) Whether to be retrospective or prospective in working towards BNG

f) How to phase-in or implement measures to achieve BNG, and associated timelines
g) Whether to embed BNG within existing policy, strategy or management areas, or introduce as a new or separate focus
h) Whether the relevant staff skills and competencies and management tools are in place, or whether training and new tools are needed

Identify BNG team, engage advisers and define Terms of Reference

- **Identify key team members** in senior environmental leadership from operating companies or boards to steer the BNG planning process. Engage institutions or experts with prior experience in, and knowledge of, BNG concepts and corporate management to help and support the drafting of a company plan for BNG. Define the terms of reference and the way the team will work.

Map and engage stakeholders

- **Identify and map key internal and external stakeholder groups** whose engagement in BNG planning will help secure the collaboration and support needed for BNG activities to succeed.

Identify and focus on priorities

- **Prioritise activities** in accordance with company impacts and risks, as well as levels of dependence of the company or affected parties on significant biodiversity values[4]. In short, establish 'what is significant':
  a) Integrate BNG into planning at the **earliest possible stage**, especially for relatively high risk operations where the emphases would be on avoiding or minimizing risk and establishing the feasibility of planning offsets;
  b) Look for **readily attainable areas or goals where it would be easy to achieve BNG** results to build corporate confidence and experience and avoid starting BNG activities in situations where it will be particularly difficult to succeed.

Note: Where there are substantive risks and uncertainties (TECHNICAL NOTE 6), progress towards BNG may best be **phased** or deliberately incremental. **Pilot projects** can help to identify and resolve challenges to implementation.

Develop an internal draft plan for achieving BNG

- **Prepare an internal draft plan** for working towards BNG. There are many considerations which a company might want to include in this plan, such as the company's vision; the scope and goals of BNG; the assessment methodologies used, including indicators and metrics; and the different strategies to achieve the defined goals, together with milestones and activities. It could be appropriate to include any governance or management implications to the company, amongst others (TECHNICAL NOTE 10). Identify and set aside the resources and tools required to implement the BNG plan, draw up appropriate budgets and set timelines for implementation.
- Get **commitment and senior buy-in** to BNG plan, which should be adopted by CEO/ Senior Executives and the Board of Directors, who should also sign off on the implementation strategy and plans.

[4] E.g. species or ecosystem diversity, key ecological or evolutionary processes, and important ecosystem services.

Integrate BNG Plan into Environmental Management System

- **Identify and integrate** necessary and appropriate changes into existing environmental management systems or sustainability plans, to implement and achieve measurable BNG objectives (TECHNICAL NOTES 7-9). Determine what changes – if any – would need to be made to procedures, management structures and governance to enable objectives to be achieved, with scale of changes proportional to foreseen risks, and set Key Performance Indicators.

2.2 DO: Implement the Biodiversity Net Gain plan within your company

(Implement Biodiversity Net Gain plan, with vision, scope, commitment)

Implement the plan for achieving BNG

- Put the plan defined in Step 2.1 into action.

Note: A company may choose first to undertake a BNG pilot project (e.g. at the level of a project, even if the intended scope is broader such as the corporate level) or to implement the plan on a trial basis before rolling it out. This allows for testing the draft plan and associated management measures internally to provide early lessons and areas where improvement or changes are required (see 'CHECK' below). One option is to bring this together with a Natural Capital Account for Biodiversity Net Gain (TECHNICAL NOTE 17).

Integrating the draft BNG plan into day-to-day business (TECHNICAL NOTES 11 AND 12) includes the following:

a) BNG activities are integrated into job descriptions of key staff. They have the staff time, skills, capabilities and tools to implement them.
b) BNG costs are budgeted into running costs and project costs, as appropriate.
c) The BNG plan is integrated into company procedures (e.g. quality management and/or continuous improvement), into project programmes and timelines, and into communication policies and procedures.
d) Regular progress and performance are measured.
e) Engagement with internal and external stakeholders is ongoing.
f) Partnerships are established with key stakeholders (e.g. central and local government and conservation scientists) who can help design mitigation measures in line with conservation priorities and stakeholders (e.g. NGOs, farmers, conservation banks) who can help implement mitigation measures (e.g. offsets).

2.3 CHECK: Assess progress internally and with key stakeholders

(Test progress with Biodiversity Net Gain Plan; Internal & external stakeholder input, revise plan)

Review progress and performance of the proposed plan

- Review **key performance measures** of the draft BNG plan and associated management measures internally with key operational divisions, senior managers and board members.
- Check whether implementation of the plan is **achieving expected outcomes**, what may be hampering progress, and what changes may be required. This process also provides the opportunity to identify a 'network of champions' to take the work forward.

Review the BNG plan based on internal and external engagement

- **Review** the draft BNG plan, based on internal feedback and continue engagement and gathering of feedback from internal and external stakeholders.
- **Check** the plan's quality, completeness and defensibility, and whether it is sufficiently clear to track, evaluate and change performance to meet BNG objectives and goals/ targets. Amend the BNG plan once the best approach has been identified on strategy, management and implementation provisions.

Monitoring

Monitor and evaluate the BNG plan to see whether it is on track and achieving its defined objectives. Key components (TECHNICAL NOTES 11 AND 12) include:

- Review by internal stakeholders and feedback from external stakeholders
- Reporting and disclosure.
- Integrate implementation of the plan into internal procedures on **quality assurance.**

2.4 ACT: Implement corrective actions and continual improvement

(Update plan based on monitoring and evaluation; ensure integration into KPIs, internal & external assurance and reporting)

Modify and update the BNG plan

- **Modify** the BNG plan in the light of the results of the steps under 'CHECK'. This includes reviewing the methodologies used to assess losses of biodiversity through impacts and gains achieved from conservation measures.
- **Update integration** into company procedures (e.g. quality management and/or continuous improvement).

Assurance and reporting

- Update measures to ensure any policies, standards and commitments on BNG are delivered across the company, aligning with internal quality assurance procedures.
- Report on progress against the BNG plan. Includes:
  a) Internal and external audits, verification (including KPIs for key staff); and
  b) Reporting and disclosure, including a review of methodologies used and results.

Part 3: Applying the steps to different scopes of activity

Part 3 offers suggestions on applying the steps described above in four different situations, each with a different scope. This could entail a modified version of the steps in Part 2. Businesses might need more time for the initial steps, for instance, mapping their supply chains and reviewing the risks and opportunities of different approaches. In addition, it could help during preparatory work to undertake a pilot project or trial a BNG plan.

Section 3.1: Working towards BNG at the **project or business unit level** (i.e. site by site, case by case).

Section 3.2: Working towards BNG **across the group, at the corporate level.**

> These sections are likely to be most relevant to companies following the steps in Part 2 to address their **own impacts** through **converting or modifying habitat**. For example, seeking BNG when clearing land or marine areas. Sections 3.1 and 3.2 will be particularly relevant to the following sectors: energy, extractives, infrastructure, construction, housebuilding, agriculture, forestry, fisheries.

Section 3.3: Working towards BNG through the company's **value chain**

> This section is likely to be most relevant to companies following the steps in Part 2 to address the impacts that arise through their **value chain,** in collaboration with their **suppliers.** Section 3.3 will be particularly relevant to sectors such as: food and beverages; apparel; consumer goods; retail; engineering.

Section 3.4: Working towards BNG through **investment decisions** and **engagement**

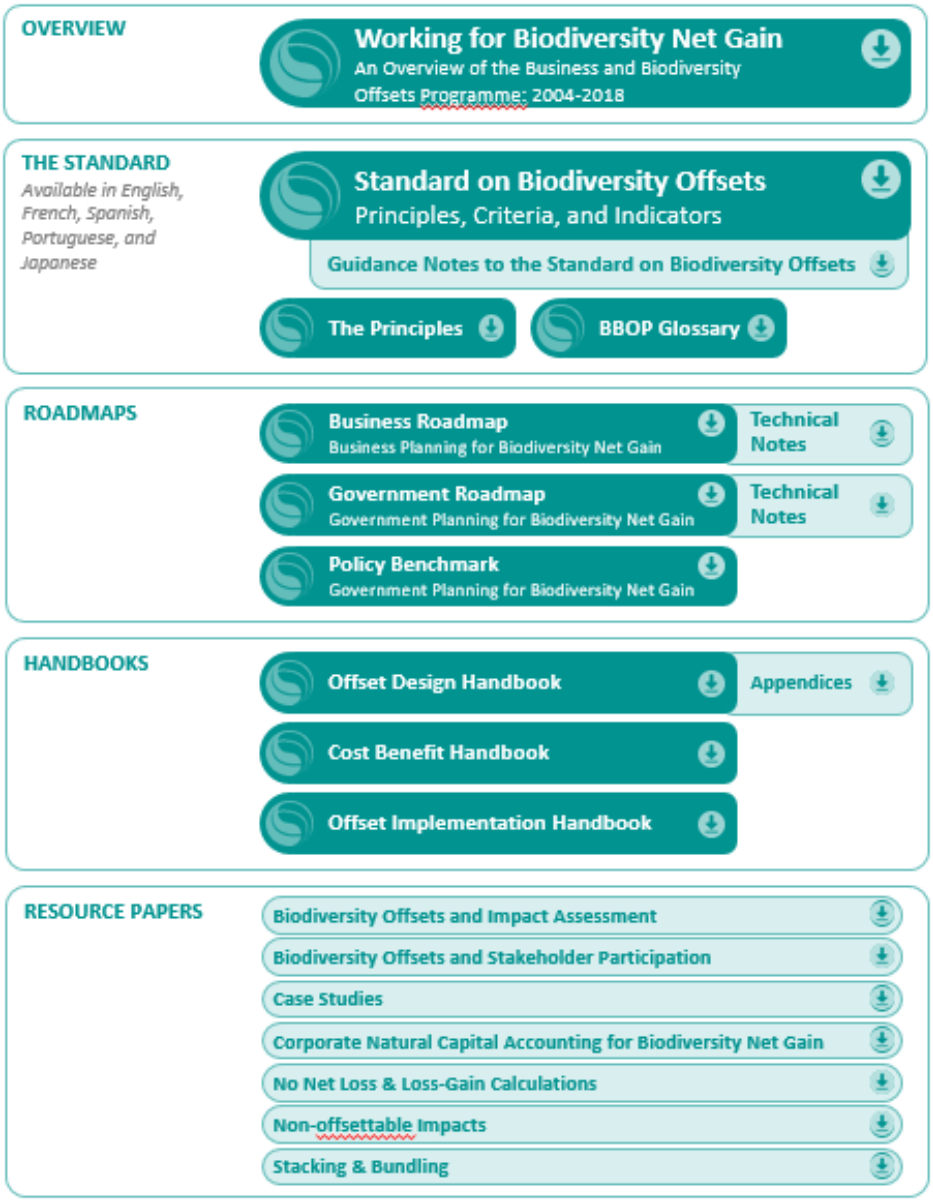
> This section is likely to be most relevant to companies following the steps in Part 2 to address the impacts on biodiversity that arise from their **investment strategies** and **engagement** with companies in which they are invested and which they finance. It will therefore be most relevant to **financial institutions**.

3.1 Working towards BNG at the project or business unit level

Many companies start their journey to Biodiversity Net Gain by setting BNG as a goal for individual projects, case by case.

When the Business and Biodiversity Offsets Programme (BBOP) started its work in 2004, there were no 'how to' publications on working for Biodiversity Net Gain for projects worldwide, beyond a few regulatory frameworks in a handful of countries. BBOP published a number of best practice resources that apply particularly at the project level See Figure 5 and TECHNICAL NOTE 14). This includes an international Standard on Biodiversity Offsets, which is accompanied by explanatory guidance notes and three handbooks on the design and implementation of mitigation measures.

Figure 5. BBOP Resources



Many governments and financial institutions have since introduced policies often with guidelines on the ***mitigation hierarchy*** (including biodiversity offsets or compensation). In addition, there are many useful publications to guide companies as they plan their projects for BNG (e.g. see TECHNICAL NOTES 13, 14 & 20 for a list of resources).

In addition, many companies are exploring natural capital accounting and preparing balance sheets of environmental profit and loss accounts for specific sites or business units. With approaches such as Corporate Natural Capital Accounting for Biodiversity Net Gain (see TECHNICAL NOTE 17), there is an opportunity to planning for BNG together with planning for natural capital assessments and accounts.

3.2 Working towards BNG at the corporate level for the company's direct footprint

A growing number of companies whose activities result in land-use change (extractives, energy, utilities, infrastructure and construction companies, for instance) are making commitments to no net loss or a net positive outcome for biodiversity. (See TECHNICAL NOTE 2). To give two examples, Cemex commits to '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', and Highways England commits to 'No Net Loss to biodiversity by 2020 and Net Gain by 2040'.

Such company-wide commitments (often focussed on land-use change rather than impacts on biodiversity from climate change contributions, etc.) differ from commitments for individual projects in that they establish expectations at the corporate level, not just for occasional, specific projects. Accordingly, a roadmap for achieving this goal will need to have specific additional elements that explore:

- The feasibility of achieving BNG across the company and all its business units, not just individual sites and projects, including whether the company already has the data needed for delivering BNG or needs to supplement this.
- The possibility of aligning planning for BNG with work on corporate natural capital assessments and accounting (See TECHNICAL NOTE 17).
- The advantages and disadvantages of such a commitment, and identification of activities that can optimise the benefits of potential advantages and reduce risk that might be associated with the disadvantages.
- Prioritisation of implementation of BNG (particularly in the case of a company with a large number of business units and projects). For example undertaking activities for BNG first at projects with higher biodiversity risk and/or higher Net Gain potential, then move down the priorities until all projects are covered. (High risk sites could be tackled at the same time as getting some 'easy wins' with simpler sites to build confidence.)
- How BNG can be implemented consistently across the company and then monitored, evaluated and assured.

Box 4: A Note on scope

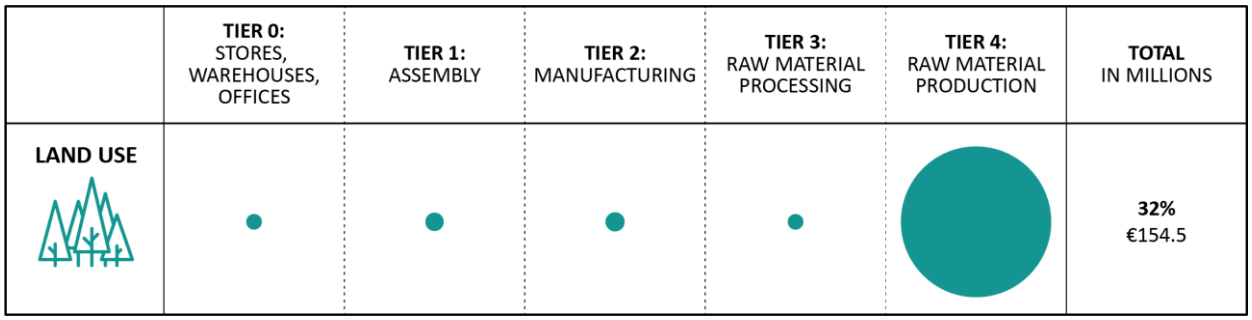
This roadmap focusses principally on methods to work towards Biodiversity Net Gain as a result of impacts on biodiversity through land-use and particularly land-use change. However, for many companies, very significant impacts on biodiversity arise from other pressures. Such pressures include their carbon emissions and thus contribution to climate change, abstraction of water, activities causing acidification and eutrophication, the introduction of invasive species, etc. It can thus be extremely important to address these impacts on biodiversity. It is beyond the scope of this document to provide guidance on best practice to address these impacts, but a broad literature exists in this area[5].

[5] See, for example S. Schaltegger, S. and Beständig, U. 2012. Corporate Biodiversity Management handbook: a guide for practical implementation. BMU. https://www.business-and-biodiversity.de/fileadmin/user_upload/documents/Die_Initiative/Zentrale_Dokumente/Handbook_en.PDF; KNU and LCF, 2015. The ISO management system and the protection of biological diversity.

3.3 Working towards BNG through the company's value chain

For many companies, particularly those in processing, manufacturing and retail of products, their main dependency and impact on biodiversity arises not from construction and use of their premises and this impact on land. Rather, they come from loss of biodiversity through upstream activities related to products (transport, purchase of goods and services, etc.) and those downstream (distribution, use of sold products, end-of-life disposal, etc). Significant impacts on biodiversity can arise from the production of raw material in the value chains of products. Kering's environmental profit and loss account (Figure 6 below) reveals that the group's principal impacts on biodiversity come from its Tier 4 suppliers and not from their own premises. It shows the dominance of supply chain over direct impacts on biodiversity in many sectors.

Figure 6: Kering's 2017 Environmental Profit and Loss statement concludes that its largest impacts around land use occur in its Tier 4 suppliers



(Source: Kering, 2017)

> NOTE: See also the approaches by financial institutions to 'biodiversity footprinting' and safeguards in section 3.4, below, and TECHNICAL NOTE 19.

The concept of 'scope' can usefully be borrowed from the carbon footprint world and the GHG Protocol[6] to describe biodiversity impacts across the value chain. The impact directly under the control of the company belongs to its scope 1 impacts, while upstream and downstream impacts belong to scope 2 and scope 3, respectively. It will be more straightforward for companies to tackle their scope 1, but companies can work systematically towards BNG for impacts within scopes 2 and 3, especially if they do so through partnerships. Similarly, the approaches used by the GHG Protocol to define what is 'under the control of the company' are relevant to the attribution of biodiversity impacts to stakeholders across the value chain. Three approaches to attributing biodiversity impacts to stakeholders can be distinguished: financial control, operational control and allocating impacts *pro rata* according to the share of the assets owned. The choice of approach should be consistent with the way each company consolidates its financial data.

Companies can take logical steps to reduce the loss of biodiversity through the value chain, including (and see also TECHNICAL NOTE 17):

- Map impacts (and dependencies) across the value chain. Map opportunities for enhancing biodiversity as well.

[6] https://www.wri.org/publication/greenhouse-gas-protocol

- Identify value chain actors with a dominant positive or negative impact on biodiversity. Also look at value chain actors that have potential to enhance biodiversity through their operations and sourcing. A screening exercise based on such factors will result in a priority list for more detailed assessment, which streamlines and reduces the cost of assessing impacts through the value chain.
- Review risks and opportunities focussing on suppliers, use, new business models and transport.
- Prepare a workplan to tackle priorities and move towards BNG. This could include:
    - Developing (or collaborating on) metrics and data collection[7];
    - Defining procurement criteria and procedures that minimise negative impact and trigger innovative pro-biodiversity innovations;
    - Partnerships with suppliers to include biodiversity criteria in purchasing and procurement procedures and/or introduce industry-wide certification or commitments to reduce biodiversity impacts (such as the Roundtable on Sustainable Palm Oil or RSPO)
    - Integrating biodiversity more explicitly into environmental management systems, strategic business planning and product innovation
    - Pilot projects. For instance, partnerships on how to enhance and measure biodiversity gains within a landscape approach or establishing partnerships so that the construction of infrastructure strengthens biodiversity[8]
    - Reporting and Disclosure
    - Natural Capital Accounting (e.g. balance sheets and environmental profit and loss accounts)

3.4 Working towards BNG through investment strategies and engagement

An introduction to BNG through investment decisions

The main impact of financial institutions on biodiversity stems from their investment decisions and the impacts of the projects, companies and countries in which they invest. Investments that entail land-use change, carbon emissions and water pollution, for instance, cause a loss of biodiversity. The loss of biodiversity can cause and be associated with financial risk. By way of illustration, when the IOI Group lost its certification under the Round Table for Sustainable Palm Oil and major suppliers stopped sourcing from the company, its share price dropped by 7%[9] and its market capitalisation by 17%.[10] Examples such as this point to the fact that there can be material financial risk and opportunity associated with impacts and dependence on biodiversity. Including BNG in an ESG policy, investment strategy and engagement can drive a clear goal and positive impact through investments, and serve as part of the basis of well-informed investment decisions. BNG can serve as an aspirational goal in the realm of finance and impact investing. Commitment by the board to include BNG in an ESG investment strategy and policy will enable a financial institution to work towards BNG, allocating the necessary resources to doing so.

Like other sectors, it can be helpful for financial institutions to consider how they can apply the mitigation hierarchy to their investment strategies, so as to avoid and minimise impacts on biodiversity and ecosystem

[7] See, for example, Lammerant et al, 2018.
[8] http://nextgreen.nl/en/projects/green-deal-infra-nature/
[9] https://www.thestar.com.my/business/business-news/2016/03/29/rspo-suspension-negative-for-ioi-group/
[10] https://www.valuewalk.com/2017/11/ioi-corporation-berhad/

services, restore afterwards and offset or compensate for residual impacts as a last resort. In addition, FIs can consider investment opportunities that supporting pro-biodiversity innovation.

This section will explore:

- Why it can help financial institutions to pay due regard to BNG in investment strategy and engagement.
- The level of ambition that can be set for BNG in investment policy
- How a footprinting exercise can help FIs understand the nature of their impacts on biodiversity
- And then how these impacts can be addressed through a variety of approaches for achieving BNG via investment strategies and engagement, such as screening, voting, engagement, ESG integration, loan conditions and impact investing.

Why work on BNG in investment decisions?

As the rest of this document attests, it is comparatively rare to find investment opportunities that can already demonstrate that they have attained BNG. Rather, for most investors and financiers, it is a case of working towards BNG, which is why this Roadmap can help.

The rationale for investments to be planned for BNG is outlined in section 3.4 and TECHNICAL NOTE 18. For investors, in particular, biodiversity should be viewed as one important component of a framework of analysis for risk and opportunity. This can be seen by reference to the World Economic Forum's Global Risk Framework 2018 which shows that biodiversity loss and ecosystem collapse is in top ten major global economic risks and in the upper quartile for both impact and likelihood (see TECHNICAL NOTE 18).

What does BNG in investment look like?

Financial institutions can approach biodiversity with a range of levels of ambition, which can usually be described in terms of the goal set and the scope of activities it covers. The goal can range from very general qualitative formulations such as 'improving outcomes for biodiversity' or 'enhancing biodiversity' to more specific quantitative commitments to Zero Net Deforestation, No Net Loss, Biodiversity Net Gain (or Net Positive Impact), accompanied by clear definitions, metrics and frames of reference. For instance, in 2017, ASN Bank committed to 'No net loss of biodiversity as a result of all of our loans and investments by 2030', and in 2018, raised its level of ambition to a goal of 'Net Positive Impact'[11]. The scope can range from individual funds to specific asset classes to the whole investment portfolio.

How to achieve BNG in investment strategy and engagement decisions?

There are many options for how financial institutions can go about working towards BNG in their investment decisions.

- **Mapping, or 'footprinting'**

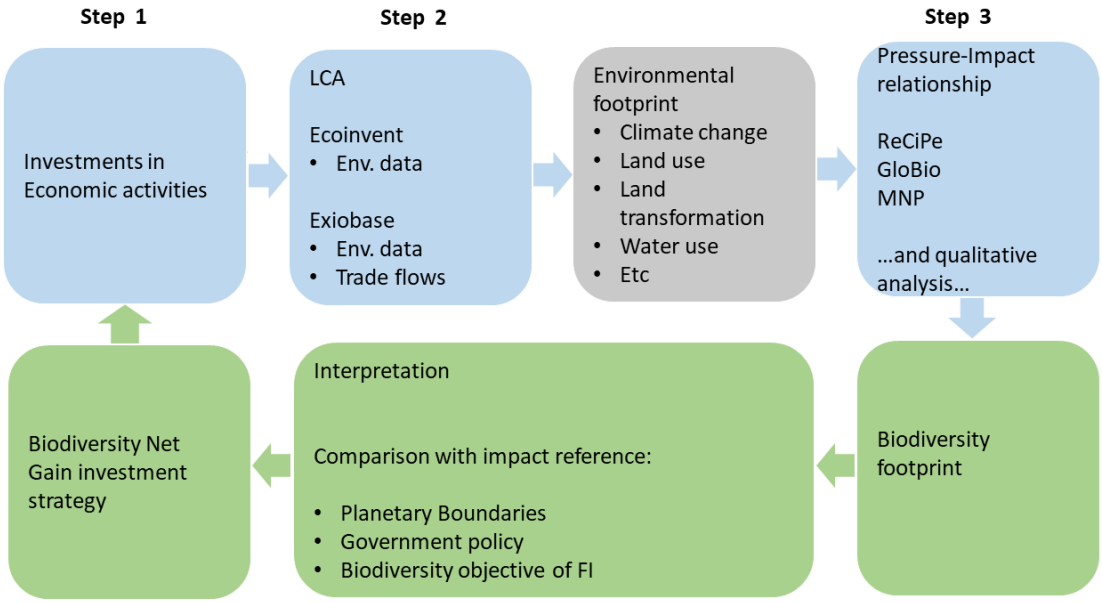
A helpful first stage in addressing impacts on biodiversity through investment can be a mapping exercise at a portfolio level in order to understand the footprint of the financial institution and its investment universe

[11] https://www.asnbank.nl/algemeen/duurzaamheid/duurzaamheidsbeleid/biodiversiteit/no-net-loss-of-biodiversity-in-2030.html

against biodiversity risk and opportunity. Financial institutions can review companies' exposure to biodiversity risk and opportunity (for example, because of operations near to high biodiversity value areas, or particularly high dependence on biodiversity and ecosystem services - for instance, pollination). This can be used to define "high-risk" companies on which to focus and prioritise activity.

A number of financial institutions are developing methodologies and undertaking assessments that reveal the impacts of the investments in their portfolios on biodiversity. Typical steps in such 'footprinting' can involve defining the boundary of the economic activities to be investigated as part of the footprint, then collecting data and finally calculating the footprint. An example is the methodology developed by ASN bank, illustrated in Figure 7. Common ground on biodiversity footprinting requirements is now being developed by ASN Bank, ACTIAM, Finance in Motion and CDC Biodiversité, developed in cooperation with CREM and PRé Consultants. For more information, see TECHNICAL NOTE 19.

Figure 7: Steps for biodiversity footprinting by financial institutions



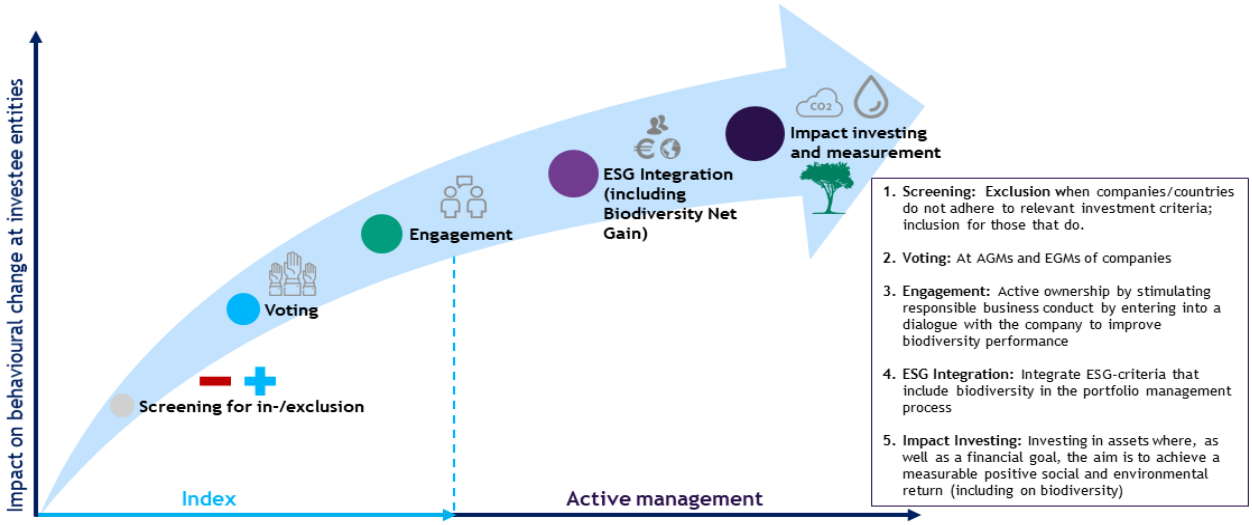
Acknowledgement: adapted from information from ASN Bank and CREM with thanks.

The results of a footprinting exercise by a financial institution can guide the most important activities and investments to address, the most appropriate level of ambition, the scope of activity to cover in BNG work, and how to go about it. (See TECHNICAL NOTE 19.) Once a financial institution has evaluated part of its 'footprint' on biodiversity in this way, several avenues exist to address the financial risk involved and simultaneously improve the outcome for biodiversity, moving towards BNG. These are described in the next section.

- **Activities**

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, as illustrated in Figure 8:

Figure 8: Approaches Financial Institutions can take to work towards Biodiversity Net Gain



Acknowledgement: with thanks to Actiam

A notional illustration of how these approaches can help apply the mitigation hierarchy is shown in TECHNICAL NOTE 18.

More information on these approaches can be found in TECHNICAL NOTE 18, and they are summarized here:

- **Screening**: Principles and criteria establish sectors and companies in which to invest in (positive screens – for instance, selecting 'best in class' companies) and to avoid (negative screens).
- **Voting**: Using voting rights as shareholders to urge companies to address biodiversity risks and opportunities (and specifically Biodiversity Net Gain) in order to become more sustainable.
- **Engagement**: Dialogue with the boards or management of companies in which FIs are invested, to understand how they are exposed to risk and opportunity with respect to biodiversity and how they are responding, then encouraging them to improve their performance.
- **ESG integration:** Considerations of biodiversity in investment decisions, often by including it in the 'ESG (environmental, social and governance) Score.
- **Safeguards in project finance**: to define the environmental and social standards required of projects seeking finance, including No Net Loss and Net Gain of biodiversity.
- **Favourable loan conditions**: lower bank interest rates for companies with a good track record on the management of biodiversity risk and opportunity.
- **Impact Investing:** investing in assets to achieve not only a financial return but also a measurable positive social and environmental return, e g. creating funds or bonds for investments that aim for positive impacts on biodiversity.
- **Blended finance:** use of development finance and philanthropic funds (and public/private partnerships) to mobilise private capital to biodiversity-friendly investments.

Part 4: Links to further technical information

Part 4 lists the technical notes available in the accompanying appendix, clustered by themes, and also some useful publications and websites

Figure 9: Technical Notes clustered under themes

Technical notes clustered by themes:
Technical Note 1: Definitions of key terms
Examples and inspiration
Technical Note 2: Examples of companies with NNL/ NPI/ NG/ ZND commitments
Technical Note 9: Tools that support BNG planning used by specific companies
Technical Note 11: BNG partnerships
Technical Note 13: Useful links to further information on NNL, NG, NPI, ZND
Technical Note 20: Useful links to further information on different BNG tools
Planning and conception
Technical Note 3: Business risks, opportunities and challenges
Technical Note 4: Company tools to assess biodiversity risks, opportunities, impacts and dependencies
Technical Note 6: Feasibility of achieving BNG
Technical Note 15: Considering the level of ambition
Technical Note 7: Important components of BNG goals
Technical Note 10: Scope of draft BNG plan
Technical Note 14: Business and Biodiversity Offsets Programme (BBOP) tools that support BNG planning
Management approaches
Technical Note 8: Integration of BNG into existing environmental management systems
Technical Note 12: Implementing the BNG plan
Technical Note 16: Corporate Natural Capital Accounting for Biodiversity Net Gain
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
Technical Note 5: Reporting on progress towards BNG

Useful publications, websites and references

Please also refer to TECHNICAL NOTES 13, 14 & 20 for an expanded list of potentially useful links.

- ACCA (Association of Chartered Certified Accountants), Fauna and Flora International, and KPMG. 2012. Is natural capital a material issue? Available at: http://www.accaglobal.com/content/dam/acca/global/PDF-technical/environmental-publications/natural-capital.pdf
- ASN Bank, CREM and PRé Consultants. 2016. Towards ASN Bank's Biodiversity footprint. A pilot project. August 2016. Available at: https://www.asnbank.nl/over-asn-bank/duurzaamheid/biodiversiteit/biodiversiteit-in-2030/biodiversity-in-2030.html
- BBOP (Principles, Standard, tools, webinars, library). https://www.forest-trends.org/bbop/resources/
- Cambridge Conservation Initiative (BirdLife International, UNEP-WCMC, RSPB, FFI and the University of Cambridge) 2015. Strengthening implementation of the mitigation hierarchy: managing biodiversity risk for conservation gains. http://www.birdlife.org/sites/default/files/attachments/cci_report_-_managing_risk_for_conservation_gains_-_final_-_june_9th_2015_0.pdf
- CIRIA/CIEEM/IEMA. In press. Development that leaves biodiversity in a better state: A guide to implementing the Good Practice Principles for Biodiversity Net Gain.
- CISL (University of Cambridge Institute for Sustainability Leadership). 2015. Doing business with nature. Available at: https://www.cisl.cam.ac.uk/resources/natural-resource-security-publications/doing-business-with-nature-report
- CGF Consumer Goods Forum - 2010 Board Resolution on Deforestation: Zero Net Deforestation by 2020 (ZND) https://www.theconsumergoodsforum.com/initiatives/environmental-sustainability/key-projects/deforestation/
- CGF Sustainability Activation Toolkit. https://www.theconsumergoodsforum.com/wp-content/uploads/2017/10/sustainability-activation-toolkit.pdf
- Cross-Sector Biodiversity Initiative (CSBI) 2015: A cross-sector guide for implementing the Mitigation Hierarchy, prepared by The Biodiversity Consultancy, Cambridge. http://www.csbi.org.uk/tools-and-guidance/mitigation-hierarchy/
- Entreprises pour l'Environnement. 2016. Entreprises et biodiversité: Gérer les impacts sur la chaîne de valeur. http://www.epe-asso.org/entreprises-et-biodiversite-gerer-les-impacts-sur-la-chaine-de-valeur-novembre-2016/
- Forum for the Future, WWF-UK, and the Climate Group: Net Positive Principles. https://www.forumforthefuture.org/Handlers/Download.ashx?IDMF=be63777c-211c-471a-8229-dc70c45f0ad7
- IFAC 2014. Innovative Organizations: Becoming Net Positive; https://www.ifac.org/global-knowledge-gateway/sustainability/discussion/innovative-organizations-becoming-net-positive
- IFC Performance Standard 6 and Guidance Notes http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/our+approach/risk+management/performance+standards/environmental+and+social+performance+standards+and+guidance+notes
- India Business and Biodiversity Initiative. 2016. Integrating Biodiversity & Ecosystem Services into an ISO 14001:2015-based Environmental Management System. Confederation of Indian Industry and GIZ, 2016.
- IUCN 2016 Net Positive Impact: the business case; http://cmsdata.iucn.org/downloads/npi_business_01_2016.pdf
- IUCN 2016 Net Positive Impact: the conservation case. http://cmsdata.iucn.org/downloads/npi__conservation__01_2016_1.pdf

- IUCN Review Protocol for Biodiversity Net Gain: https://portals.iucn.org/library/node/46882
- Kering. Environmental Profit and Loss. 2017 Group Results. Available from http://www.kering.com/sites/default/files/kering_2017_epl_report.pdf).
- Lammerant, Johan, Müller, Lars and Kisielewicz, Jerome. 2018. Assessment of Biodiversity Accounting approaches for Businesses: Discussion paper for EU Business @ Biodiversity Platform. Draft Report 5 September 2018. http://www.i-care-consult.com/wp-content/uploads/2018/09/Assessment-biodiversity-metrics-for-business-and-FI_draft-report-5Sept2018.pdf
- Lammerant, J., Jasper Ohm, David Thelen, Bianca Nijhof, Floor Osseweijer and Gerben Meijer. 2014. Development of a Protocol for Applying th Planetary Boundaries Concept to Nitrogen Emissions, as an example of Business Pressures on Biodiversity. Arcadis. https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwjAydfp3Y3eAhVJbKwKHYcBD3EQFjAAegQICRAC&url=https%3A%2F%2Fwbcsd.sharepoint.com%2Fsd%2Fnc%2Feco%2Fecosolutions%2F_layouts%2F15%2Fguestaccess.aspx%3Fdocid%3D0e0b091a345334f41ac6bf3ceb690cc2d%26authkey%3DAV_E4CaJ_0I5nbAgjkdjwgo&usg=AOvVaw0HUwj7XRG_eL4Eqy_iM8lx
- Natural Capital Coalition, Natural Capital Finance Alliance, UNEP Finance Initiative, Global Canopy and VBDO. 2017. Connecting Finance and Natural Capital: A Supplemnt to the Natural Capital Protocol. https://naturalcapitalcoalition.org/wp-content/uploads/2018/05/Connecting-Finance-and-Natural-Capital_Supplement-to-the-Natural-Capital-Protocol-1.pdf
- Natural Capital Declaration. 2015. Towards including natural resource risks in cost of capital: State of play and the way forward. http://www.naturalcapitalfinancealliance.org/aerm-project
- Rainey H.J., Pollard, E.H.B., Dutson, G., Ekstrom, J.M.M., Livingstone, S.R., Temple, H.J. and Pilgrim, J.D. (2014). A review of corporate goals of No Net Loss and Net Positive Impact on biodiversity Fauna & Flora International, *Oryx,* Page 1 of 7. https://www.cambridge.org/core/journals/oryx/article/review-of-corporate-goals-of-no-net-loss-and-net-positive-impact-on-biodiversity/3CA7620BA54066084F8AE1A70421553A
- Rockström J., Steffen W., Noone K., Persson Å, Stuart Chapin III F., Lambin E.F., Lenton T.M., Scheffer M., Folke C., Schellnhuber HJ., Nykvist B., de Wit C.A., Hughes T., van der Leeuw S., Rodhe H., Sörlin S., Snyder P.K., Costanza R., Svedin U., Falkenmark M., Karlberg L., Corell R.W., Fabry V.J., Hansen J., Walker B., Liverman D., Richardson K., Crutzen P., & Foley J.A. 2009. A safe operating space for humanity. *Nature* volume 461, pages 472–475 (24 September 2009)
- UN Environment WCMC. 2017. Biodiversity Indicators for Extractive Companies: An Assessment of Needs,Current Practices and Potential Indicator Models. https://www.unep-wcmc.org/system/dataset_file_fields/files/000/000/487/original/Biodiversity_Indicators_for_Extractive_Companies_FINAL.pdf?1516357616
- UNEP FI. 2008. Biodiversity and ecosystem services – bloom or bust? Available at: http://www.unepfi.org/publications/ecosystems-publications/biodiversity-and-ecosystem-services-bloom-or-bust/
- UN Global Compact and IUCN. 2012. *A Framework for Corporate Action on Biodiversity and Ecosystem Services*. Business case, management recommendations, collaborative and collective action (including supply chains), setting goals and tracking performance. https://www.unglobalcompact.org/docs/issues_doc/Environment/BES_Framework.pdf
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- World Business Council for Sustainable Development (WBCSD) and World Resources Institute (WRI). 2014. The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard. Revised Edition. https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf
- www.exiobase.eu; www.ecoinvent.org; and https://www.rivm.nl/en/Topics/L/Life_Cycle_Assessment_LCA/ReCiPe