

The GBP Impact Reporting Working Group

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Suggested Impact Reporting Metrics for Living Natural Resources and Land Use Projects

June 2022

Green Bonds

Working Towards a Harmonised Framework for Impact Reporting for Living Natural Resources and Sustainable Land Use Projects

June 2022
Introduction

The overall goal of the green bond market is to promote and amplify the important role that financial markets can play in helping to address environmental issues. By explicitly specifying the environmentally beneficial projects to which the bond proceeds are directed, Green Bonds allow investors to assess and direct capital to environmentally sustainable investments. It is assumed that the Green Bonds referred to in this document are aligned with the Green Bond Principles (“GBPs”)¹. The GBP help enhance the integrity and transparency of environmental finance, including through recommending impact reporting.

In December 2015, a working group of eleven International Financial Institutions (IFIs) published a “Harmonized Framework for Impact Reporting”². The framework outlined core principles and recommendations for impact reporting in order to provide issuers with reference and guidance for the development of their own reporting and provided core indicators and reporting templates for energy efficiency and renewable energy projects. **In common with the release of harmonised frameworks for impact reporting on sustainable water and wastewater management projects (in June 2017), for sustainable waste management and resource-efficiency projects³ (in February 2018) for clean transportation projects (in June 2018), for green buildings (in March 2019), and biodiversity projects (in March 2020), climate adaptation projects (in December 2020), and circular economy projects (in April 2021) this document builds on the earlier framework and outlines a harmonised framework for impact reporting on sustainable management of living natural resources and land use projects.** This is one of the ten broad categories of eligibility for Green Projects under the GBP 2021.

This document summarises the conclusions of an informal technical working group,⁴ which has received broader input through the Impact Reporting Working Group convened by the GBP Executive Committee. It has been requested by many in the investor community, as reflected both in the GBP and in the responses to the formal consultations conducted by the GBP in 2016-2021.

The GBP recommend the use of both qualitative performance indicators and, where feasible, quantitative performance measures with the disclosure of the key underlying methodology and/or assumptions used in the quantitative determination. This document provides **core quantitative indicators for sustainable management of living natural resources and land use projects as well as reference reporting templates** that issuers can adapt to their own circumstances. These templates make reference to the most commonly used indicators, however, the working group acknowledges that other indicators might be relevant as well.

¹ See: <http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/green-bonds/>

² See: <http://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/20151202-0530-FINALRevised-Proposal.pdf>

³ See: <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Handbook-Harmonized-Framework-for-Impact-Reporting-December-2020-151220.pdf>

⁴ Participants: European Bank for Reconstruction and Development (EBRD), International Bank for Reconstruction and Development (IBRD), Kreditanstalt für Wiederaufbau (KfW), and Nordic Investment Bank (NIB).

All recommendations, indicators and templates need to be compatible with different approaches to the management of proceeds, which can be based on allocations either to individual projects or project portfolios.

The indicators proposed herein aim to capture and illustrate the environmental and sustainability benefits of projects relating to sustainable management of living natural resources and land use projects, which are recognised by the GBP for Green Projects under one of the ten broad categories of eligibility for Green Projects:

“Environmentally sustainable management of living natural resources and land use (including environmentally sustainable agriculture; environmentally sustainable animal husbandry; climate smart farm inputs, such as biological crop protection or drip irrigation; environmentally sustainable fishery and aquaculture; environmentally sustainable forestry, including afforestation or reforestation; and preservation or restoration of natural resources.”

While we understand “environmentally sustainable management of living natural resources and land use” projects to also include those that are focused on the conservation and sustainable use of biodiversity, such projects fall under the separate GBP project category of “terrestrial and aquatic biodiversity” for which impact reporting metrics have been proposed.⁵ Similarly, this GBP project category is understood to address broader considerations, such as water usage, energy consumption, waste management, the circular economy and climate adaptation. For instance, in relation to the latter, metrics were proposed to cover projects focused on increasing the using drought resistant crops and precision farming. Similarly, investments in reducing and preventing food loss may be addressed through waste management or circular economy indicators. As this document seeks to provide additional and specific metrics, projects already covered by the aforementioned “Harmonized Framework for Impact Reporting” may be reported using the relevant indicators and templates provided.

Living natural resources are understood in terms of a wide variety of plants, animals and microorganisms, and also in terms of the ecosystem services to which they contribute. As the focus and objectives of environmentally sustainable management of living natural resources and land use projects are highly dependent on individual ecological circumstances, it is crucial to provide information on the core dimensions of the project, its specific characteristics and the metrics to analyse the results. The importance of the geographic context in the assessment of, for instance, crop selection and more generally of proposed solutions reinforces the benefit of additional disclosures, such as the national, regional and local context and information on the population served.

While this document proposes certain specific quantitative impact reporting metrics, providing qualitative information, including all strategies, actions and plans for managing the positive and negative impacts, including on biodiversity, appears to be of particular relevance for sustainable management of living natural resources and land use projects. For instance, outlining landscape and jurisdictional strategies, nutrient management techniques employed and the approach to avoiding or minimising the use of pesticides and antibiotics will provide an understanding of a project’s co-benefits to biodiversity, human health and the broader environment. Similarly, explaining policies that increase forest protection against insects, disease and fire may be important in understanding climate mitigation, adaptation and biodiversity benefits. Such qualitative information is also encouraged to provide a meaningful context for understanding and assessing the baseline situation and the improvement as a result of the project, which may be further complemented by more general indicators that highlight the wellbeing of the local community, as well as the relevance of food security.

⁵ <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Standalone-Biodiversity-Impact-Metrics-April-2020-200420.pdf>

At present, established global benchmarks for sustainable management of living natural resources are scant, but this looks set to change. In particular, there is a growing focus on the importance of adopting improved sustainability practices in the sector if the climate mitigation and adaptation goals of the Paris Agreement are to be achieved⁶. Even as demand for food is expected to increase by 50% by 2050, the ambition to limit global temperature rises to 1.5°C will require agriculture and forestry to halve GHG emissions. To provide the fullest understanding of the level of ambition of projects targeting GHG emissions' reductions, impact reporting should reflect this goal and interim targets. Issuers may look to reference guidance being developed for target setting⁷.

It is widely understood that a net zero goal will not be achievable without a substantial shift away from current consumption levels of livestock products, given the sector's present high level of emissions. It is, nevertheless, important to highlight projects that offer significant emissions' reduction opportunities ahead of a meaningful societal dietary transition to alternative protein sources.

Investors may have particular concerns in relation to energy crop production projects, with different sustainability implications being associated with each type of biofuel, and with the general risk of land being diverted from food to fuel production despite a persistent growth in global food demand. It will be important to demonstrate that high emissions during production, processing and transportation do not quash GHG savings, and that air quality impacts are within statutory emissions ceilings.

For the purpose of data quality, issuers are encouraged to disclose additional technical reports, environmental impact assessments and/or data verification protocols where additional information could be provided, as well as links to the sources of such data and methods of calculation. The robustness of disclosures and/or the underlying methodology may be enhanced by making available any independent assessment from consultants, verification bodies and/or institutions with recognised expertise in environmental sustainability. Since the context in which any project is undertaken is of key importance in an assessment, a portfolio of projects across different geographies may be best understood through disaggregated data.

⁶ [Annex to the Platform on Sustainable Finance's report with recommendations on technical screening criteria for the four remaining environmental objectives of the EU taxonomy](#)

⁷ [FLAG-Guidance-Public-Consultation.pdf \(sciencebasedtargets.org\)](#)

Core Indicators

A. Crop production

1. Resource efficiency in operations incl. traction, irrigation, pumping, harvesting, crop cooling, storage and transportation.

- Reduction in net GHG emissions, GHG intensity (e.g. tCO₂e/unit of output) or energy intensity (e.g. GJ/unit of output)
- Water savings from improved irrigation, stormwater and rainwater capture, groundwater recharge and/or the reuse of highly treated wastewater (e.g. m³/year)
- Farmland covered by new, or rehabilitated efficient irrigation, water efficient crops and/or resource conserving crop rotation (ha or km²)

2. Management of soil and biomass for carbon sequestration, erosion control and improved soil health.

- Farmland under soil conservation/regenerative agricultural practices, including increased cover crop coverage, complex crop rotation, crop diversity practices, maintaining living roots/permanent soil coverage, minimum or no tillage farming and/or crop and livestock integration (ha and % of acreage farmed)
- Increase in above and below ground carbon stocks (tC/ha) (*TEG Taxonomy Report*)
- Reduction of GHG emissions as a result of soil conservation measures and land use change (tCO₂e/ha)

3. Implementation of sustainable land practices.

- Increase in area under certified organic or sustainable agriculture (ha and % of acreage farmed)
- Conversion of agricultural land to more diverse cropping systems (e.g. agroforestry) (ha and % of acreage farmed)
- Increase in area under integrated pest management (ha and % of acreage farmed)
- Increase in agricultural land set aside for biodiversity conservation (e.g. rewilding, conversion of land along field edges to woodland) (ha and % of acreage farmed)
- Increase in area under management practices targeting improved ecosystem services provision (e.g. pollination) (ha and % of acreage farmed)

Benchmarks:

Internationally recognised and/or locally relevant benchmark standards for organic farming (e.g. EU eco label for organic food production, USDA organic label, Demeter, Naturland).

B. Livestock production

1. Management of soil and biomass for carbon sequestration, erosion control and improved soil health.

- Pasture area under improved management such as Management Intensive Rotational Grazing (MIG) systems and silvopastoral grazing practices (ha / % of rangeland) (*jMDB*)

2. Reduction of methane and nitrous oxide emissions from livestock

- Improved feeding practices reducing enteric CH₄ emissions (% of herd covered)
- Improved manure treatment practice (% of total volume)
- Sustainable improvement of productivity (% decrease of tCO₂e/unit of output)

Notes:

Ensure that mitigation and emission reduction techniques for feeding and housing of livestock and for manure storage and processing are applied, such as recommended in the UNECE Framework Code for Good Agricultural Practice for Reducing Ammonia.

Ensure emissions to air, water and soil are within the BATAEL ranges / are prevented or reduced by using a combination of BAT techniques as set out in the BREF for the Intensive Rearing of Poultry or Pigs, and by using similar emission reducing techniques for dairy farming.

3. Minimising environmental impacts in agricultural value chains

- Increase in feedstock supply chain certification coverage (% of total feedstock volume)
- Increase in the share of agricultural inputs that can be shown to be deforestation- or conversion-free. (% of total agricultural inputs)
- Replacement of feedstock reliant on long-haul transportation with sustainable on-farm sources/ local alternatives (% of total volume)

Benchmarks: *Feedstocks used are certified under one of the following, pre-approved best practice standards:* • RSB <https://rsb.org/certification/> • RTRS <https://responsiblesoy.org/> • ISCC Plus <https://www.iscc-system.org/> • Pro Terra <https://www.proterrafoundation.org/> (CBI)

Notes:

An immediate action for mitigation should not prevent or close down future options for change that could deliver greater mitigation benefits in the sector. For example, the investment in activities that seek to improve the GHG performance of the livestock sector should not prevent more systemic changes in the sector through, for example, greater integration of livestock and crop production (mixed farming), or overall reduction in livestock production. One opportunity for emissions reductions in the agriculture sector as a whole is to switch from higher emitting activities to lower emitting activities (for example, by reducing cattle numbers and increasing legume production as an alternative source of protein), with a corresponding consumption switch between agricultural commodities (*TEG Taxonomy Report*).

C. Forestry

1. Sustainable forest management, including afforestation, reforestation, forest rehabilitation.

- Avoided and/or sequestered GHG emissions (tCO_{2-e} p.a)

- Increase in area under sustainable forest management (ha)/Area converted from conventional logging to reduced-impact logging practices (% of managed forestland)/Adoption of harvesting methods that minimise impacts on soil (% of managed forestland)
- Maintenance/increase of provisions of ecosystems services: erosion control and improved soil health, quantity and quality of water (% of managed forestland)

Benchmarks:

Internationally recognised benchmark standards for sustainable forestry (e.g. FSC, PEFC, Rainforest Alliance).

Notes:

jMDB: Activities that drain native ecosystems or degrade hydrological systems shall not be eligible.

jMDB: Evidence of human-assisted natural regeneration should be provided. TEG: The FAO FRA definition of reforestation excludes natural regeneration. However, the Taxonomy recognises the importance of natural regeneration to the increased carbon sink and stock potential provided by forests in general. It is therefore included explicitly within this context in line with the FAO FRA definition of naturally regenerating forest

CBI requirements for sustainable forestry management: Free Prior & Informed Consent (FPIC); No natural landscape conversion since 2010 (e.g. FSC or PEFC certification plus confirmation that no peatlands have been converted since 2010)

Taxonomy TEG on reforestation: Regeneration of forests after harvesting is covered under EU legislation. (Need to ensure criteria are additional.)

D. Fisheries & aquaculture

1. Sustainable fisheries

- Increase in % of certified sustainable fisheries
- Increase in tonnes of sustainable seafood production
- Increase in low-impact fishing gear (in % of operations covered?)
- Reduction in bycatch per unit of effort in tonnes or %
- Reduction in abandoned, lost or otherwise discarded fishing gear (ALDFG) volumes

Benchmarks:

Internationally recognised benchmark standards and certification schemes for fisheries (e.g. ASC, Global-GAP).

Notes:

Certified sustainable fisheries should be accredited by the GSSI and comply with FAO Technical Guidelines

2. Sustainable aquaculture

- Increase in % of certified sustainable aquaculture

- Reduction in marine and freshwater pollution/Waste discharged per ton of fish, nitrogen discharged from the farm (per ton of production) and total discharge of wastes from farms
- Reduction of chemicals, anti-microbials or pesticides per ton of fish
- Reduction in the occurrence of farmed fish escapes/Percentage of operations covered by new design improvements mitigating the risk of escape
- Decrease in the dependence on the direct wild capture of fish in favour of farm-raised broodstocks (% total stock for fish production)

3. Minimising environmental impacts in feed value chains

- Increase in feed supply chain certification coverage (% of total feedstock volume)
- Reduction in the use of fish meal and fish oil taken from wild stocks as feed (e.g. in favour of using alternative protein ingredients such as algal, insect, or single-cell ingredients)
- Increase in the share of feed that can be shown to be deforestation- or conversion-free.

Benchmarks:

Internationally recognised benchmark standards and certification schemes for aquaculture (e.g. ASC, Global-GAP).

Notes:

Certified sustainable aquaculture should be accredited by the GSSI and comply with FAO Technical Guidelines.

Other Sustainability Indicators

- Number of inefficient agricultural water pumps replaced with more efficient models
- Reduction in chemical inputs in kg/ha and in %
- Increase in cold storage facilities in absolute number and/or in installed capacity (metric tonnes)
- Number of projects involving integration of bycatch exclusion devices and other fishing gear modification programmes
- Increase in area covered by water management practices reducing CH₄ emissions in paddy rice cultivation
- Improvements in water quality in discharged effluents from farming/aquaculture – changes in NO₃ in mg/L and pH level
- Area of peatland/wetlands restored / under conservation practices (ha)
- Farmland covered by new, efficient drainage (ha)
- On-farm energy audit
- Volume of sustainably sourced goods produced (m³, tonnes)
- Volume of sustainably sourced goods procured (m³, tonnes)
- Number of trees/seedlings/shrubs planted and/or bought from certified forests
- Number of sustainable farms/wetland areas/conservation centres created or financed

Glossary, References and Guidance

Terms Used for Sustainable Management of Living Natural Resources and Land Use Projects.

Crop Production:

Agroforestry: Growing trees and agricultural crops on the same piece of land with a focus on complementarities.

Cover crop coverage: Sowing of cover/catch crops using a locally appropriate species mixture with at least 1 legume and reducing bare soil to the point of having a living plant coverage index of at least 75% at farm level per year.

Efficient drainage should include e.g. laser levelling.

Efficient irrigation (e.g. drip irrigation) should not include e.g. sprinklers or flood irrigation.

Integrated Pest Management (IPM): Prevention of pest damage through controls based on the life cycles of pests and their interaction with the environment.

Nutrient Management Plan: that identifies the right rate of N fertilizer use for the production unit kg/ha.

Regenerative farming: focuses on the restoration and conservation of natural resources through soil conservation practices including increased cover crop coverage, complex crop rotation, crop diversity practices, maintaining living roots/permanent soil coverage, minimum or no tillage farming.

Resource conserving crop rotation: Growing crops in ways that reduce erosion, improve soil fertility and moisture, interrupt pest cycles and increase local biodiversity, including growing different crops in the same area sequentially, growing different crops simultaneously, and growing different crops in between rows of a primary crop.

Water Management Practices reducing CH₄ emissions could include a list of examples (e.g. alternate wetting and drying <https://www.frontiersin.org/articles/10.3389/fsufs.2020.575823/full>)

Water Savings: can be measured as a net reduction in abstraction from source e.g. river, lake or aquifer

TEG Taxonomy Report: shallow flooding, mid-season drying event, off-season straw.

Additional guidance on sustainable crop production projects:

The [Annex to the Platform on Sustainable Finance's report with recommendations on technical screening criteria for the four remaining environmental objectives of the EU taxonomy](#) may provide useful guidance on the minimum conditions for crop production projects (Table 3 pages 92-110 as well as under supplementary material pages 110-115).

Livestock Production:

Feeding practices reducing enteric CH₄ emissions should include e.g. increasing the lipid content of diets.

Improved manure treatment practice where manure is applied to the land, activities should comply with the limit of 170 kg nitrogen application per ha per year, based on the provisions set out under the Nitrates Directive 91/676/EC. (In practice, this is implemented by setting limits on livestock density between 1.7-2.0 livestock units / ha.) (TEG Taxonomy Report).

Improved pasture management focuses on efforts to increase forage productivity and soil carbon storage as well as improving soil and water quality and water infiltration through measures such as rotational grazing, water tanks, stream crossings, the use of manure to either replace or supplement mineral fertilisers and pasture rehabilitation through re-establishing grasses and legumes on bare soil.

Management Intensive Grazing (MIG) systems uses repeat periods of grazing and rest between two or more paddocks or pastures. There are different methods of MIG employed for different situations, most

commonly rotational grazing, but also include managed grazing, buffer grazing, deferred grazing, frontal grazing, strip grazing and mixed species grazing.

Silvopastoral grazing practices intentionally integrate and manage trees, forage crops and livestock thereby combining animal husbandry with the production of wood products and high-quality forage.

Additional guidance on sustainable livestock production projects:

The [Annex to the Platform on Sustainable Finance's report with recommendations on technical screening criteria for the four remaining environmental objectives of the EU taxonomy](#) may provide useful guidance on grazing regimes, supplementary feed etc (Table 3 pages 34-55) as well as under supplementary material pages 55-57).

Forestry:

Degraded Land has minimal tree cover, and absence of peat and therefore is an area with low carbon stocks.

Reduced Impact Logging Practices - <https://www.fao.org/3/ac805e/ac805e04.htm>

Rehabilitated Land seeks ecological restoration of forest land to ensure the productivity and resilience of the trees, soils, and vegetation thereby supporting biodiversity, the role that forests play in absorbing and storing GHG emissions, as well as supporting livelihoods.

Sustainable Forest Management - See also: TEG Taxonomy Report, Annex F2 for indicative examples of types of practices.

Certifications: FSC, PEFC.

Fisheries and Aquaculture:

Bycatch per unit: The quantity of fish/wildlife caught (in number or in weight) with one standard unit of fishing effort (e.g., number of fish taken per 1,000 hooks per day, or weight of fish taken per hour of trawling).

High to low impact fishing gear: (E.g. trawls/dredges to fishing gear that does not contact the seafloor, pole and line. selectivity).

Sustainable Fisheries: Should cover sourcing from fisheries with healthy levels of fish abundance, fishing fleet efficiency, equipment, leaving enough fish in the ocean⁸, protecting habitats⁹ and threatened species¹⁰.

Sustainable Aquaculture: Should ensure sustainable feed systems that respect ecosystems and biodiversity, reduce the use of veterinary products and other substances while promoting the health and welfare of the animals, and mitigate adverse effects, including on water quality, discharges, emissions, and pollutants.

⁸ EU-Taxonomy: Operating in a fishery which complies with established catch limits set at Maximum Sustainable Yield (MSY) with at least 50% of spawning biomass unfished, based on stock status and fishing mortality below MSY taking into account an ecosystem-based approach.

⁹ EU-Taxonomy: Fishing in a fishery with an established and maintained 10% no take zone, prioritising sensitive habitats and ecosystem connectivity; this should be evidenced in a fisheries management plan; restricting fishing areas in case of essential fish habitats and sensitive habitats).

¹⁰ EU-Taxonomy: not operating in a fishery where targeted species are threatened or endangered & avoid by-catch (Only truly selective methods/gear that has published research showing high selectivity and low impact on the ecosystem are used & Release bycatch when species have known survival possibility).

FAO The State of World Fisheries and Aquaculture (SOFIA): <https://www.fao.org/fishery/en/sofia/en>

FAO Technical Guidelines on Sustainable Fisheries & Aquaculture:
<https://www.fao.org/fishery/en/home>

EU Aquaculture: for the period 2021 to 2030 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2021:236:FIN>

Additional guidance on sustainable fisheries:

- Fishing within established catch limits set at Maximum Sustainable Yield (MSY) with at least 50% of spawning biomass unfished, based on stock status and fishing mortality below MSY taking into account an ecosystem-based approach; not operating in a fishery where targeted species are threatened or endangered).
- Avoiding by-catch (Only truly selective methods/gear that has published research showing high selectivity and low impact on the ecosystem are used & Release bycatch when species have known survival possibility).
- Respecting no take zones (fishing in a fishery with an established and maintained 10% no take zone, prioritising sensitive habitats and ecosystem connectivity; this should be evidenced in a fisheries management plan; restricting fishing areas in case of essential fish habitats and sensitive habitats).
- No discarded gear and minimised gear loss. All gear must have a tagging (ID), reporting, recovery and recycling, use of biodegradable materials and no single use equipment.
- No record of illegal, unreported and unregulated (IUU) fishing activity in the last 5 years (100% observers' coverage or Remote Electronic Monitoring (REM) is in place on board vessel to monitor compliance with harvesting criteria and better collection of data on by-catch).

The preparation of this material was led by an informal **Technical Working Group (TWG)**. Special thanks are extended to the TWG for their detailed work that drove the preparation of this document. The material also benefited from generous input from members of the **Impact Reporting Working Group (IRWG) with support from ICMA**.

The 2021/22 IRWG consists of the following organisations:

- **Working Group Coordinators for Impact Metrics: EBRD and KfW**
- **Technical Working Group (TWG): comprising EBRD, KfW, NIB and The World Bank**
- **Impact Reporting Working Group (IRWG) Members:**

Addenda Capital	Ernst & Young Hua Ming	Mizuho International plc
American Bureau of Shipping	Erste Asset Management	Moody's/Vigeo-Eiris
American Carbon Registry	Escarus – TSKB Sustainability Consult.	Morgan Stanley
Amundi	ESG Tech	MUFG Securities
Anglian Water	EUROFIMA	NASDAQ
Ashurst HK	Fannie Mae	Natixis
ATP	Fitch Ratings	NatWest
Axa IM	Folksam	Nomura International
Bank of America Merrill Lynch	Goldman Sachs Asset Management	Nordea
Bank of Montreal	Green Investment Group	Nordic Investment Bank (NIB)
Barclays	GRESB BV	Nuveen
Bayerische Landesbank	Hannon Armstrong	OP Corporate Bank
BlackRock	Hong Kong Exchanges and Clearing	PeaceStartup Foundation
Bloomberg	Hong Kong Investment Funds Assoc.	PIMCO
BNP Paribas	HSBC	Province of Ontario
BPCE SA	I-Care & Consult	Rating and Investment Information
Caixa	ICE Data Services	Riksgäldskontoret
Carbon Trust	Impact Group	Rizal Commercial Banking Corp.
Cassa Depositi e Prestiti	Impact Investment Exchange (IIX)	Sage Advisory
CECEP Environmental Consulting	ING	Santander CIB
Central Bank of Hungary	Institute for Global Environmental	SFIL/CAFFIL
Centre for Public Policy Development	Inter-American Development Bank	Simmons & Simmons
Centre for Sustainable Development	International Fund for Agriculture	Skandinaviska Enskilda Banken (SEB)
Ceres	International Finance Corporation	SMBC Nikko Capital
China Chengxin Green Finance	Intesa Sanpaolo	SNCF SA
Technology	Investing for Good CIC Ltd	Social Value Institute
CICERO Shades of Green	Institutional Shareholder Services	Société Générale CIB
Climate Bonds Initiative	Jupiter Asset Management Ltd	S&P Global Ratings
Commonwealth Bank of Australia	KBC Bank NV	Standard Bank of South Africa
Credit Agricole - CIB	King & Wood Mallesons LLP	Standard Chartered Bank
Czarnikow Group Ltd.	Kommunalbanken	Sustainalytics
Dentons	Lloyds Bank Corporate Markets PLC	Swedbank
Deutsche Bank	London Stock Exchange	The Nature Conservancy (TNC)
Deutsche Kreditbank AG	Local Initiatives Support	UBS
DLA Piper	London Stock Exchange	UN Women
DNV Business Assurance	Luxembourg Stock Exchange	Wells Fargo
EDF	Massachusetts Bay Transportation	World Bank
EIB	Mirova	Yale Initiative on Sustainable Finance
Emprendimiento Sostenible ES	Mitsubishi UFJ Morgan Stanley Secs.	Zurich Insurance
Enagas		

V. Reporting Templates

Living Natural Resources and Land Use Projects

Illustrative Summary Template for Project-by-Project Report:

Crop production	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Living Natural Resources and Land Use component	Allocated Amount c/	Project lifetime d/	<indicator x> e.g. Reduction in net GHG emissions, GHG intensity or energy intensity e/		<indicator y> e.g. Farmland under soil conservation/regenerative agricultural practices e/		<indicator z> e.g. Increase in area under certified organic or sustainable agriculture e/		Other Indicators e/
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	%	in t tCO ₂ e/unit of output p.a. or GJ/unit of output p.a.	% of acreage farmed	in ha	% of acreage farmed	in ha	
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. Number of inefficient agricultural water pumps replaced with more efficient models Reduction in chemical inputs in kg/ha and in %

Livestock production	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Living Natural Resources and Land Use component	Allocated Amount c/	Project lifetime d/	<indicator x> e.g. Pasture area under improved management (MIG systems) and silvopastoral grazing practices e/		<indicator y> e.g. Improved feeding practices reducing enteric CH ₄ emissions e/		<indicator z> e.g. Increase in feedstock supply chain certification coverage e/		Other Indicators e/
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	% of rangeland	in ha	% of herd covered	% of total feedstock			
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX		e.g. Volume of sustainably sourced goods produced (m ³ , tonnes)

Living Natural Resources and Land Use Projects (continued)

Illustrative Summary Template for Project-by-Project Report:

Forestry	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Living Natural Resources and Land Use component	Allocated Amount c/	Project lifetime d/	<indicator x> e.g. Avoided and/or sequestered GHG emissions e/	<indicator y> e.g. Increase in area under sustainable forest management e/	<indicator z> e.g. Maintenance/increase of provisions of ecosystems services: erosion control etc. e/	Other Indicators e/
<i>Project name f/</i>	<i>currency</i>	<i>%</i>	<i>% of signed amount</i>	<i>% of signed amount</i>	<i>currency</i>	<i>in years</i>	<i>in tCO2e p.a.</i>	<i>in ha.</i>	<i>% of managed forestland</i>	
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. Number of trees/seedlings/shrubs planted and/or bought from certified forests

Fisheries and aquaculture	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Living Natural Resources and Land Use component	Allocated Amount c/	Project lifetime d/	<indicator x> e.g. Increase in certified sustainable fisheries e/	<indicator y> e.g. Increase in certified sustainable aquaculture e/	<indicator z> e.g. Reduction in marine and freshwater pollution / Waste discharged, nitrogen discharged from the farm e/	Other Indicators e/
<i>Project name f/</i>	<i>currency</i>	<i>%</i>	<i>% of signed amount</i>	<i>% of signed amount</i>	<i>currency</i>	<i>in years</i>	<i>%</i>	<i>%</i>	<i>t of production</i>	
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. Increase in cold storage facilities in absolute number and/or in installed capacity (metric tonnes) Improvement in water quality in discharged effluents from aquaculture – changes NO2 in mg/L and ph level

Living Natural Resources and Land Use Projects (continued)

Illustrative Summary Template for Portfolio-based Report:

Crop production	Signed Amount a/	Share of Total Portfolio Financing b/	Eligibility for green bonds	Living Natural Resources and Land Use component	Allocated Amount c/	Average portfolio lifetime d/	<indicator x> e.g. Reduction in net GHG emissions, GHG intensity or energy intensity e/		<indicator y> e.g. Farmland under soil conservation/regenerative agricultural practices e/		<indicator z> e.g. Increase in area under certified organic or sustainable agriculture e/		Other Indicator e/s
							%	in t tCO2e/unit of output p.a. or GJ/unit of output p.a.	in ha	% of acreage farmed	in ha	% of acreage farmed	
Portfolio name	currency	%	% of signed amount	% of signed amount	currency	in years	%	in t tCO2e/unit of output p.a. or GJ/unit of output p.a.	in ha	% of acreage farmed	in ha	% of acreage farmed	
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. <i>Number of inefficient agricultural water pumps replaced with more efficient models</i> <i>Reduction in chemical inputs in kg/ha and in %</i>

Livestock production	Signed Amount a/	Share of Total Portfolio Financing b/	Eligibility for green bonds	Living Natural Resources and Land Use component	Allocated Amount c/	Average portfolio lifetime d/	<indicator x> e.g. Pasture area under improved management (MIG systems) and silvopastoral grazing practices e/		<indicator y> e.g. Improved feeding practices reducing enteric CH4 emissions e/	<indicator z> e.g. Increase in feedstock supply chain certification coverage e/	Other Indicators e/
							% of rangeland	in ha	% of herd covered	% of total feedstock	
Portfolio name	currency	%	% of signed amount	% of signed amount	currency	in years	% of rangeland	in ha	% of herd covered	% of total feedstock	
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. <i>Volume of sustainably sourced goods produced (m³, tonnes)</i>

Living Natural Resources and Land Use Projects (continued)

Illustrative Summary Template for Portfolio-based Report:

Forestry	Signed Amount a/	Share of Total Portfolio Financing b/	Eligibility for green bonds	Living Natural Resources and Land Use component	Allocated Amount c/	Average portfolio lifetime d/	<indicator x> e.g. Avoided and/or sequestered GHG emissions e/	<indicator y> e.g. Increase in area under sustainable forest management e/	<indicator z> e.g. Maintenance/increase of provisions of ecosystems services: erosion control etc e/	Other Indicators e/
<i>Portfolio name</i>	<i>currency</i>	<i>%</i>	<i>% of signed amount</i>	<i>% of signed amount</i>	<i>currency</i>	<i>in years</i>	<i>in tCO2e p.a.</i>	<i>in ha.</i>	<i>% of managed forestland</i>	
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. Number of trees/seedlings/shrubs planted and/or bought from certified forests

Fisheries and aquaculture	Signed Amount a/	Share of Total Portfolio Financing b/	Eligibility for green bonds	Living Natural Resources and Land Use component	Allocated Amount c/	Average portfolio lifetime d/	<indicator x> e.g. Increase in certified sustainable fisheries e/	<indicator y> e.g. Increase in certified sustainable aquaculture e/	<indicator z> e.g. Reduction in marine and freshwater pollution / Waste discharged, nitrogen discharged from the farm e/	Other Indicators e/
<i>Portfolio name</i>	<i>currency</i>	<i>%</i>	<i>% of signed amount</i>	<i>% of signed amount</i>	<i>currency</i>	<i>in years</i>	<i>%</i>	<i>%</i>	<i>t of production</i>	

e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. Increase in cold storage facilities in absolute number and/or in installed capacity (metric tonnes) Improvement in water quality in discharged effluents from aquaculture – changes NO2 in mg/L and ph level
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Notes:

- a/ Signed amount represents the amount legally committed by the issuer for the project or component that is eligible for green bond financing.
- b/ This is the share of the total project cost that is financed by the issuer. Issuers may also report the total project cost. When aggregating impact metrics only the pro-rated share should be included in the total.
- c/ This represents the amount of green bond proceeds that has been allocated to disbursements on the project.
- d/ Based on either the expected economic life or financial life of the project, if applicable. Issuers should disclose the reporting basis used.
- e/ The methodology and assumptions used should be disclosed for calculations in quantitative reporting.
- f/ Confidentiality considerations may restrict the project level detail that can be disclosed, but issuers should aim to report the list of projects and either project level or aggregate level committed and allocated amounts and core indicator amounts.