The Green Bond Principles

ICMA

Handbook

Harmonized Framework for Impact Reporting

June 2019

The compilation of this handbook was **led by an informal Technical Working Group comprising EBRD, EIB, International Finance Corporation (IFC), KfW, NIB and the World Bank**.

Special thanks are extended to this Technical Working Group, for their detailed work, that drove the preparation of this document as well as to the 4 Multilateral Development Banks (AfDB, EIB, IFC and World Bank) that published the first Harmonized Framework for Impact Reporting in March 2015, and **the 11 International Financial Institutions (IFIs)** that published the updated version in December 2015. **The material also benefited from generous input from members of the Impact Reporting Working Group**, **coordinated by EBRD and KfW**, with support from ICMA.

The **11 International Financial Institutions (IFIs)** that published "Working Towards a Harmonized Framework for Impact Reporting" in December 2015 are:

The **GBP Impact Reporting Working Group** currently consists of the following organisations:

Working Group Coordinators:

EBRD
KfW

Working Group Members:

Actiam
Amundi
Anglian Water
Ashurst
Axa IM
Bank of America Merrill Lynch
Blackrock
BNP Paribas
Crédit Agricole CIB
Carbone4
Climate Bond Initiative
Ceres
CICERO
EDF
ICADE
I-Care & Consult
ING
International Finance Corporation (IFC)
ISS-oekom
J.P. Morgan
Kommunalbanken
Luxembourg Stock Exchange
Mainstreet Partners
Mirova
Mizuho
Moody's
Morgan Stanley
Natixis
Nordea
Nordic Investment Bank (NIB)
Skandinaviska Enskilda Banken (SEB)
SNCF Reseau
Société Générale
South Pole
The Nature Conservancy
TIAA Investments
Vasakronan
White & Case
World Bank
World Wide Fund for Nature (WWF)
Yale Initiative on Sustainable Finance
Zurich Insurance

Disclaimer

Contents

I. Introduction 4

II. Background History 5

III. Core Principles and Recommendations for Reporting 7

IV. Sector Specific Guidance and Reporting Metrics 10

1. Renewable Energy 10
   - Core Indicators 10
   - Other Indicators (Examples) 10
2. Energy Efficiency 11
   - Core Indicators 11
   - Other Indicators (Examples) 11
3. Sustainable Water and Wastewater Management 12
   - Core Indicators 13
   - Other Sustainability Indicators 14
4. Waste Management and Resource Efficiency 15
   - Guidance and Definitions 16
   - Core Indicators 17
   - Other Sustainability Indicators 19
5. Clean Transportation 20
   - Guidance and Definitions 21
   - Core Indicators 22
   - Other Sustainability Indicators 23
6. Green Buildings 24
   - Guidance and Definitions 25
   - Core Indicators 26
   - Other Sustainability Indicators 27

V. Reporting Templates 28

- Renewable Energy 28
- Energy Efficiency 29
- Sustainable Water and Wastewater Management 30
- Sustainable Water and Wastewater Management (continued) 31
- Waste Management and Resource-Efficiency 32
- Waste Management and Resource-Efficiency (continued) 33
- Clean Transportation 34
- Clean Transportation (continued) 35
- Green Buildings 36
- Notes 37

I. 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 allocated, Green Bonds allow investors to assess and allocate capital to environmentally sustainable investments. It is assumed that the green bonds referred to in this document are aligned with the Green Bond Principles ("GBP")[1]. The GBP help enhance the integrity and transparency of environmental finance, including through recommending impact reporting.

In March 2015, a working group of four Multilateral Development Banks (AfDB, EIB, IFC and World Bank) developed and published the first Harmonized Framework for Impact Reporting, that was later revised and republished by 11 International Financial Institutions (IFIs).[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.

Successively, harmonized frameworks for impact reporting on further categories of eligibility for Green Projects under the GBP have been released. Sectors so far covered are: Sustainable Water and Wastewater Management Projects (June 2017), Sustainable Waste Management and Resource-Efficiency Projects (February 2018), Clean Transportation Projects (June 2018) and Green Building Projects (February 2019). These harmonized frameworks summarise the conclusions of informal technical working groups[3], which have received broader input through the Impact Reporting Working Group convened by the GBP Executive Committee.

This handbook unites the above mentioned harmonized frameworks in one document preserving the content of the initial documents. The objective is to enhance the usability of the initial documents and to avoid repetitions.

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 handbook outlines general **core principles and recommendations** for reporting in order to provide issuers with a reference as they develop their own reporting. This handbook also **offers impact reporting metrics** and **sector specific guidance** for the aforementioned project categories. In chapter V of this handbook, **reporting templates** are included for issuers to use and adapt to their own circumstances. These templates make reference to the most commonly used indicators. Other indicators, however, might be relevant as well.

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

This document does not, at this stage, cover impact reporting on projects pursuant to the remaining GBP categories. However, the authors of this document acknowledge the importance of harmonized metrics also for such projects, for which additional suitable indicators are to be developed in the future and added to this handbook.

It is acknowledged that there are also other initiatives in the market that provide guidance on impact reporting including by green bond market participants.[4]

1 See: **https://www.icmagroup.org/green-social-and-sustainability-bonds**
2 Participants: African Development Bank (AfDB), Agence Française de Développement (AFD), Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB), Inter-American Development Bank (IDB), International Bank for Reconstruction and Development (IBRD), International Finance Corporation (IFC), Kreditanstalt für Wiederaufbau (KfW), Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden (FMO), and Nordic Investment Bank (NIB).
3 The members of the respective working groups are mentioned under II. Background History
4 For example: Nordic Public Sector Issuers' "Position Paper on Green Bonds Impact Reporting" **https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Resource-Centre/NPSIPositionpaper2019final-120219.pdf**

II. Background History

- In November 2013, a group of investors, issuers and market intermediaries gathered at a Symposium hosted by the World Bank[5] to discuss the green bond market and what is needed to help it achieve its purpose. Investors recognized a need for more transparency around the use of proceeds as well as further development in the area of impact reporting, and encouraged participating MDBs to help develop guidance on a common approach, building on ongoing work among a broader group of IFIs to develop harmonized approaches for GHG accounting.
- In January 2014, the Green Bond Principles (GBP), a voluntary set of guidelines, were published at the initiative of capital market intermediaries that recommended transparency and disclosure to promote integrity in the development of the green bond market by clarifying the cornerstones of green bond issuance.
- In February 2015, a statement of investor expectations for the green bond market convened by Ceres for the Investor Network on Climate Risk, highlighted investors' requests for issuers to report on the environmental impact issuers expected their projects to generate.
- In March 2015, a second edition of the Green Bond Principles was published with the support of the International Capital Market Association (ICMA) as the Secretariat to the GBP. This edition benefited from extensive dialogue with representative groups of issuers, investors and intermediaries to reflect the evolution of the green bond market and to identify best practice. The updated GBP identified four components of green bonds: (1) use of proceeds (eligibility criteria); (2) process for project evaluation and selection (due diligence procedures); (3) management of proceeds (allocation procedures); and (4) reporting. With regard to reporting, the updated GBP specify that:

  "In addition to reporting on the use of proceeds and the temporary investment of unallocated proceeds, issuers should provide at least annually a list of projects to which green bond proceeds have been allocated including - when possible with regards to confidentiality and/or competitive considerations - a brief description of the projects and the amounts disbursed, as well as the expected environmentally sustainable impact. [...]

  The GBP acknowledge that there are currently no established standards for impact reporting on Green Projects, ***and welcome and encourage initiatives, including those by leading green bond issuers, that help establish a model for impact reporting that others can adopt and/or adapt to their needs.****"*

- In March 2015, based on investor interest in impact reporting and the positive influence that higher transparency and comparability in this area may have for the green bond market and the call by investors such as Blackrock and Zurich Insurance for shared impact assessment approaches, AfDB, EIB, IFC, and the World Bank came together as a working group convened by the World Bank Treasury to develop a Harmonized Framework for Impact Reporting. The first version of this document was discussed with and distributed to investors and other market participants for broader consideration and published.
- In May 2015, ICMA, as GBP Secretariat, distributed the document to the GBP Members and Observers, to broaden its reach and increase its potential use by more market participants.
- In September 2015, seven additional IFIs joined the working group and their comments are reflected in the revised version of the document that was published in December 2015 under an initiative coordinated by the EIB timed to coincide with COP 21, hosted in Paris.
- In August 2016, the GBP Executive Committee established the Impact Reporting Working Group ("IRWG"). It was agreed that the IRWG would be co-chaired by Blackrock and EBRD.
- In September 2016, the kick-off meeting of the IRWG agreed to broaden sectoral coverage beyond renewables and energy efficiency, which were already covered by the aforementioned document, incrementally tackling other GBP project categories.
- In June 2017, the 30 members of the IRWG, led by an informal technical working group comprising EBRD, KfW, NIB and the World Bank, published Suggested Impact Reporting Metrics for Sustainable Water and Wastewater Projects. Building on and referencing the previous framework of the Harmonized Framework for Impact Reporting, the document proposed core metrics for reporting on sustainable water and wastewater projects, while highlighting the importance of key qualitative and contextual information, proposing benchmarks and baselines, and offering additional sustainability indicators that may enhance reporting. Illustrative templates, similar to those proposed under the earlier document were provided both for project-by-project reporting and for portfolio-based reporting.

5 See: http://pubdocs.worldbank.org/en/980521525116735167/Green-Bond-Symposium-Summary.pdf

- In February 2018, the 36 members of the IRWG still led by an informal technical working group comprising EBRD, KfW, NIB and the World Bank and co-chaired by Blackrock and EBRD published Suggested Impact Reporting Metrics for Waste Management and Resource Efficiency Projects. It followed exactly the same format as the June 2017 document.
- In June 2018, 37 members of the IRWG led by an expanded informal technical working group that included EIB, published Suggested Impact Reporting Metrics for Clean Transportation Projects.
- In March 2019, under the co-chairmanship of EBRD and KfW, 45 members of the IRWG led by the informal technical working group of EBRD, KfW, NIB and the World Bank, published Suggested Impact Reporting Metrics for Green Building Projects.

III. Core Principles and Recommendations for Reporting

1. **Green bond issuers are encouraged to report on both the use of green bond proceeds, as well as the expected environmental impacts at least on an annual basis.**

2. **Issuers are recommended to define and disclose the period and process for including projects in their report.** There are several options for choosing when to add/remove projects to/from the report. Some of these options are described below. Projects can be added/removed to/from an impact report either directly, or indirectly via adding/removing them to/from a portfolio when reporting on a portfolio level.

   - Projects can be added to the report once the issuer has approved and determined a project as eligible, or once green bond proceeds have been allocated to eligible disbursements.
   - Projects can be removed from a report when no allocations to eligible disbursements have taken place in the reporting period, or after the underlying loans have been repaid.

   As part of its due diligence in monitoring projects included in its green bond program, an issuer may elect to remove a project from its green bond program, in which case it could cease reporting on such a project until a subsequent decision to restore the project's eligibility.[6]

3. **It is recommended that the report indicates the total signed amount[7] and the amount of green bond proceeds allocated to eligible disbursements[8].** It would also be beneficial for issuers to show additional information such as year of signing (or other measures to describe the seasoning of a portfolio) or project stage from a financing point of view (such as signed, disbursed, repaying).

4. A defining characteristic of green bonds is that the issuance proceeds (or an amount equal to the proceeds) are to be allocated only to those projects that meet the issuer's predefined eligibility criteria. **Issuers are encouraged to put in place a formal internal process for the allocation of proceeds linked to their lending and investment operations for Green Projects and to report on the allocation of proceeds.** Issuers are encouraged to explain the key characteristics of the approach they select for their allocations and to provide reference to external audit/verification, when applicable, regarding their allocation criteria.

5. **Depending on the process put in place for the allocation of proceeds, it is recommended that issuers either provide a list of projects to which green bond proceeds have been allocated, or report solely on a portfolio level.** The latter might be necessary if confidentiality considerations restrict the detail that can be disclosed, or useful if a large number of small-sized projects is financed by a green bond (e.g. green bonds financing a loan programme). Issuers are encouraged to explain the key characteristics of the approach they select for their report.

6. **Depending on the way in which proceeds are allocated, there can be differences in the approach to impact reporting.**

   <u>If allocations are to individual projects</u>, it is recommended that the report:

   - Identifies the specific projects and clearly defines, for each project, the total project results (including financing from all financiers) with information about the total project size and/or the issuer's share of total financing (project-by-project report); and/or
   - Aggregates project-by-project results including only the pro-rated share (as a percentage of the issuer's share of the total financing) of the total projects' results (portfolio report based on project-by-project allocations).

6 Possible reasons for removing a project from a green bond program include, but are not limited to, cancellation of the project, or restructuring that results in the project no longer meeting the eligibility criteria. Issuers are encouraged to disclose their approach to removing projects from their green bond programs, if applicable.

7 Total approved and legally committed amount of financing for a project or the components thereof eligible under a green bond program. Where only a portion of the overall financing is eligible, only the eligible portion should be reported. For example, if the total approved project size is CCY 10 million, of which CCY 6 million is eligible under the green bond program, the signed amount reported would be CCY 6 million.

8 For projects with partial eligibility (see par. 14), the issuer should disclose the procedure for attributing disbursements to the eligible components.

If allocations are to a portfolio of projects, issuers typically report on the overall results of the portfolio (**portfolio report based on portfolio allocations**). Issuers are however encouraged to also report the pro-rated share of the overall results.

7. **The impact report should illustrate the expected environmental impact made possible as a result of projects to which green bond proceeds have been allocated.** It should be based on ex-ante estimates (developed prior to project implementation) of expected annual results for a representative year once a project is completed and operating at normal capacity. In case of reporting on a portfolio level, ex-ante estimates can be based on the annual analyses per portfolio and, if several categories are financed, per category, if possible. The method of estimating the impacts should be made transparent. As the report would include the estimated results of projects that are still in the construction or implementation phase, there is no guarantee that these results will ultimately materialize. The reporting is thus not intended to provide actual results achieved in a specific year or reporting period.

8. **It could also be beneficial to report the estimated lifetime results and/or project economic life (in years) to provide users with a basis for understanding the impact of the project over its lifetime.** A simple multiplication of the project economic life by the estimated annual impact may not always provide a good estimate of the lifetime impact results, because this would not take into account ramp-up and ramp-down phases of the project life cycle. Also, in some project types, it may be difficult to aggregate all the measures being implemented at a project site given the heterogeneous nature of processes and/or equipment.

9. **In case the issuer samples ex-post verification of specific projects, it is recommended that the relevant results are included in the reporting.** An important consideration in estimating impact indicators is that they are often based on a number of assumptions. While technical experts aim to make sound and conservative assumptions that are reasonable based on the information available at the time, the actual environmental impact of the projects may diverge from initial projections. For example, social, economic, technical, political and legal changes can cause deviations from projections. In any case, transparency on the assumptions would clarify the reasons behind divergences between ex-ante and ex-post assessments.

10. **To facilitate comparison of project results, it is suggested that issuers aim to report on at least a limited number of sector specific core indicators for projects included in their green bond programs.** This document proposes sector specific core indicators for several of the GBP project categories in chapter IV of the handbook. However, other indicators might be deemed relevant as well.

11. **For the calculation of indicators, where there is no single commonly-used standard, issuers may follow their own methodologies while making these available to investors**. For the calculation of greenhouse gas ("GHG") emissions reduced/avoided, for instance, there are a number of **calculation methodologies** both within and across institutions. While there are on-going efforts to harmonize GHG accounting methodologies for relevant sectors among a broad group of IFIs, given the current differences in calculation approaches, reporting GHG emission data based on a uniform, consistent and published methodology remains a challenge. **Issuers are encouraged to provide full transparency on the applicable GHG accounting methodology and assumptions, which can be referenced.**

12. **Investors should be aware that comparing projects, sectors, or whole portfolios is difficult because general assumptions on inputs in calculations, like grid factors and calculation methods, also vary significantly. In addition, the cost structures between countries also vary,** so that developing cost-efficiency calculations (results per unit of amount invested in eligible projects) could place smaller countries with limited economies of scale at a disadvantage and will not take into consideration country-specific context.

13. **Issuers may elect, for consistency reasons, to convert units reported for individual projects. This should be based on a standard conversion factor to facilitate comparison and aggregation** for example converting tons of coal equivalent ("TCE") to megawatt hours ("MWh"), **with appropriate disclosure of the conversion approach. However, complex recalculations that are not publically disclosed in project documentation,** such as re-estimating GHG emissions based on consistent baseline assumptions, **should be avoided.**

14. **Issuers are encouraged to be transparent about projects with partial eligibility.** Some projects may have components that meet the issuer's green bond eligibility criteria and other components that do not. Issuers should disclose whether and to what extent they accept partial eligibility. Should an issuer use criteria that require allocating green bond proceeds to a project with partial eligibility, then it is recommended to explain all assumptions about which component each disbursement relates to (e.g. if it is assumed that disbursements are first made to the 'green' component, or pro-rated between the 'green' and 'other' components). In addition, issuers may also report the portion of the total project that is green bond eligible.

15. **In case the expected impacts of different project components (such as for example energy efficiency ("EE") and renewable energy ("RE") components of the same project) may not be reported separately, issuers may attribute the results to each component based on their relative share in the related financing, disclosing the attribution approach. Alternatively, issuers could combine the reporting metrics for both sectors into a single table** (option 2 in the reference reporting templates).

16. **Issuers should be transparent on how they report all green bond-related cash-flows in one currency when they allocate green bond proceeds and report on the projects to which green bond proceeds have been allocated.**

IV. Sector Specific Guidance and Reporting Metrics

1. Renewable Energy

The following section suggests core indicators for renewable energy projects. However, there may be projects for which the proposed core indicators are either not applicable or the data is not available. In such cases, issuers are encouraged to use metrics appropriate for these projects. Users of the reports should recognize that while issuers will make efforts to improve the consistency and availability of reported metrics over time, projects with climate impacts can cover a wide diversity of sectors and sub-sectors making complete harmonization of reporting metrics challenging. All the same, the reports will provide a convenient summary of the projects and the scope of their impacts that are considered of particular interest to green bond investors.

Core Indicators

#1) Annual GHG emissions reduced/avoided in tonnes of CO_2 equivalent /a

#2) Annual renewable energy generation in MWh/GWh (electricity) and GJ/TJ (other energy)

#3) Capacity of renewable energy plant(s) constructed or rehabilitated in MW

Other Indicators (Examples)

- Capacity of renewable energy plant(s) to be served by transmission systems (MW)
- Annual Absolute (gross) GHG emissions from the project in tonnes of CO_2 equivalent /a /b

Notes:

a. Where CO_2 emissions figures are reported, the GHG accounting methodology and assumptions should be referenced.

b. Depending on their own GHG reporting requirements, some institutions may report Absolute (gross) GHG emissions from the project, alongside the reduced/avoided emissions (under indicator #1). Together with baseline emissions, Absolute (gross) emissions allow for the calculation of emissions reduced/avoided.

In the context of climate change, data on emissions of GHG (often quoted in tonnes of CO_2 equivalent) is a commonly used indicator to assess the climate impact of certain types of projects. However, there exist a number of different methodologies for estimating and reporting GHG emissions. The differences mainly relate to the assumptions used for estimating the future output (e.g. plant efficiency), the emission conversion factors (e.g. project specific combined margin vs UNFCCC standardized baseline for the host country/region), definitions for the boundaries of a specific project (e.g. physical infrastructure/system boundary vs geographic/ administrative boundary), scope of the GHG emission reductions attributable to the project, and the baseline alternative used for comparison with the project. While many organizations have existing, published methodologies for project GHG accounting, there are on-going efforts to harmonize GHG accounting methodologies for relevant sectors among a broad group of International Financial Institutions (IFIs).[9] However, this is an on-going process and, in the absence of one single standard, institutions may follow their own methodologies while striving to make them publically available and transparent. Green bond impact reporting will increase market-wide transparency on the status quo.

9 An overarching harmonized framework has already been agreed.
See **http://www.worldbank.org/content/dam/Worldbank/document/IFI_Framework_for_Harmonized_Approach%20to_Greenhouse_Gas_Accounting.pdf**

2. Energy Efficiency

The following section suggests core indicators for energy efficiency projects. However, there may be projects for which the proposed core indicators are either not applicable or the data is not available. In such cases, issuers are encouraged to use metrics appropriate for these projects. Users of the reports should recognize that while issuers will make efforts to improve the consistency and availability of reported metrics over time, projects with climate impacts can cover a wide diversity of sectors and sub-sectors making complete harmonization of reporting metrics challenging. All the same, the reports will provide a convenient summary of the projects and the scope of their impacts that are considered of particular interest to green bond investors.

Core Indicators

#1) Annual energy savings in MWh/GWh (electricity) and GJ/TJ (other energy savings) /a

#2) Annual GHG emissions reduced/avoided in tonnes of CO_2 equivalent /b

Other Indicators (Examples)

- Number of people benefited
- Annual Absolute (gross) GHG emissions from the project in tonnes of CO_2 equivalent /b /c

Notes:

a. Energy savings depend on benchmarks

b. Where CO_2 emissions figures are reported, the GHG accounting methodology and assumptions should be referenced.

c. Depending on their own GHG reporting requirements, some institutions may report Absolute (gross) GHG emissions from the project, alongside the reduced/avoided emissions (under indicator #2). Together with baseline emissions, Absolute (gross) emissions allow for the calculation of emissions reduced/avoided.

In the context of climate change, data on emissions of GHG (often quoted in tonnes of CO_2 equivalent) is a commonly used indicator to assess the climate impact of certain types of projects. However, there exist a number of different methodologies for estimating and reporting GHG emissions. The differences mainly relate to the assumptions used for estimating the future output (e.g. plant efficiency), the emission conversion factors (e.g. project specific combined margin vs UNFCCC standardized baseline for the host country/region), definitions for the boundaries of a specific project (e.g. physical infrastructure/system boundary vs geographic/ administrative boundary), scope of the GHG emission reductions attributable to the project, and the baseline alternative used for comparison with the project. While many organizations have existing, published methodologies for project GHG accounting, there are on-going efforts to harmonize GHG accounting methodologies for relevant sectors among a broad group of International Financial Institutions (IFIs).[10] However, this is an on-going process and, in the absence of one single standard, institutions may follow their own methodologies while striving to make them publically available and transparent. Green bond impact reporting will increase market-wide transparency on the status quo.

10 An overarching harmonized framework has already been agreed. See **http://www.worldbank.org/content/dam/Worldbank/document/IFI_Framework_for_Harmonized_Approach%20to_Greenhouse_Gas Accounting.pdf**

3. Sustainable Water and Wastewater Management

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

"sustainable water and wastewater management (including sustainable infrastructure for clean and/or drinking water, wastewater treatment sustainable urban drainage systems and river training and other forms of flooding mitigation)".

Relevant projects may also reference categories focused on pollution prevention and control, environmentally sustainable management of living natural resources and land use, as well as climate change adaptation which this document does not yet cover at this stage. However, the authors of this document acknowledge the importance of harmonisation also for such projects.

The proposed indicators are designed to facilitate quantitative reporting at a project and/or at a portfolio level across geographies. The importance of the geographic context in the assessment of solutions reinforces the benefit of providing additional contextual information. We therefore encourage disclosure on the local and regional context, including river basin or regional sea specific baselines, to help understand the environmental impacts/ benefits of the project in its context. Additional qualitative reporting is also encouraged.

It is recognised that water use, wastewater treatment and energy consumption are often closely interlinked, and therefore where such projects result in energy savings, these, and related Greenhouse Gas reductions, can be reported using the core indicators for **Energy Efficiency** and corresponding **reporting timetables**.

For meaningful aggregation of indicators across projects, consistency in the methods of calculation, baselines and benchmarks would be required. Thus for the purpose of data quality, issuers are encouraged to disclose additional technical reports 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.[11]

11 For example, the International Benchmarking Network for Water and Sanitation Utilities (IBNET) is the world largest database for water and sanitation utilities performance data. **https://www.ib-net.org/** or guidance on definitions and data sources for water-related metrics that are commonly used by companies to disclose aggregated data at site or company level, such as the **Global Reporting Initiatives G4 standard water metrics**.

Core Indicators

A. Sustainable Water Management - Water Use Sustainability and Efficiency Projects

#1) Annual water savings

Annual water savings for example from:

- *reduction in water losses in water transfer and/or distribution*
- *reduction in water consumption of economic activities (e.g. industrial processes, agricultural activities including irrigation, buildings, etc.)*[12]
- *water re-use and/or water use avoided by waterless solutions and equipment, (e.g. for sanitation, cooling systems for power plants, industrial processes, etc.)*

Indicators:

- Annual absolute (gross) water use before and after the project in m^3/a, reduction in water use in %

Benchmarks:

- *Internationally recognised benchmark standards for water use efficiency (e.g. EU Directives and Best Available Techniques reference standards or industry/sector good/best practice standards)*
- *The Water Exploitation Index Plus (WEI+) or internationally recognised tools such as WRI's Aqueduct, and the WWF's Water Risk Filter*
- *The average monthly water consumption as a percentage of the sustainable basin water*

B. Wastewater Treatment Projects (including Sewage Sludge Management)

#2) Annual volume of wastewater treated or avoided[13]

Annual amount of:

- *wastewater treated to appropriate standards or raw/untreated wastewater discharges avoided*
- *wastewater avoided, reused or minimised at source*

Indicators:

- Annual absolute (gross) amount of wastewater treated, reused or avoided before and after the project in m^3/a and p.e./a and as %

Population equivalent (1 p.e.) or 60 g of BOD_5 (EU definition)

#3) Treatment and disposal and/or reuse of sewage sludge

Treatment, disposal and/or reuse of sewage sludge (according to country legislation compatible with internationally recognised standards):

- *Sludge that is treated and disposed of (e.g. dewatering, sanitisation, composting, digestion without biogas extraction)*
- *Sludge that is reused (e.g. digestion with biogas recovery, phosphorous recovery, agriculture use, co-combustion)*

Indicators:

- Annual absolute (gross) amount of raw/untreated sewage sludge that is treated and disposed of (in tonnes of dry solids p.a. and in %)
- Annual absolute (gross) amount of sludge that is reused (in tonnes of dry solids p.a. and in %)

Note: Projects which involve sludge that is dumped in landfill or stored in the waste water treatment plant (WWTP) premises or sludge that is recycled without approved safeguards will be excluded. In portfolio reporting, this may be combined with utilisation, recycling and/or disposal of other types of (solid) waste for one aggregated figure.

12 Improvements in sustainable water management may also come via small interventions (e.g. distributed sustainable water assets include composting toilets, low-flow water fixtures, efficient washing machines, micro-irrigation systems and rainwater tanks).

13 Water and wastewater projects may be deemed to have multiple benefits which can be broken out or reported according to the most meaningful impact. For instance, a project may be reported solely as a reduction in Water Consumption (under A.#1 of the respective templates under **V. Reporting Templates**), or by differentiating between the water use avoided and the generation of wastewater avoided.

Benchmarks:

- *Internationally recognised benchmark standards for wastewater/effluent quality at discharge and treatment efficiency (e.g. EU Directive, HELCOM recommendations or national standards)*
- *Total discharges in m^3 or p.e. (if known) or concentrations of pollutants (BOD_5 and/or Ntot and/or Ptot) in the recipient surface water body (a river basin, a lake or a regional sea)*
- *Water quality indices, such as UN Global Water Quality Index (WQI), could be used to characterise the baseline environmental conditions of the recipient surface water body*

Other Sustainability Indicators

#1) Improved water supply infrastructure and facilities and/or improved quality of the supplied drinking water as a result of the project

Indicators:

- Number of people with access to clean drinking water (or annual volume of clean drinking water in m^3/a supplied for human consumption) through infrastructure supporting sustainable and efficient water use (where average consumption per person is consistent with internationally recognised standards for sustainable water use)

Benchmarks:

- *The definition of "clean drinking water" follows internationally recognised drinking water quality standards, such as WHO or EU.*

#2) Improved sanitation facilities that have been constructed under the project

The increase in the share of the population connected to wastewater collection and treatment systems helps in domestic water pollution abatement, and prevents long lasting environmental damage to the aquifers.

Indicators:

- Number of people with access to improved sanitation facilities under the project

Benchmarks:

- *The definition of "improved sanitation facilities" follows the UNICEF-WHO Joint Monitoring Program definition.*

#3) Improved measures to reduce the risk from adverse flooding impact

This may include, for example, improved hydrometeorological forecasting, improved early warning systems, infrastructure for flood mitigation (levees and reservoirs), flood zoning and improved basin planning.

Indicators:

- Number of people and/or enterprises (e.g. companies or farms) benefitting from measures to mitigate the consequences of floods and droughts

#4) Sustainable land and water resources management (SLM) systems in place

SLM for the preservation and restoration of natural landscapes (such as floodplains, forests, watersheds, and wetlands) will be site-specific as different areas require different interventions. These may include land use regimes (e.g. watershed plans, soil and water conservation zones); agronomic and vegetative measures (e.g. intercropping, afforestation); water-efficient irrigation; structural measures (e.g. flood control and drainage measures, water harvesting, run-off management, gully control measures); and/or active recharge by upstream activities to ensure a sustainable quantity of water. Land area may not be considered a pertinent indicator for localised actions that are not significant at a watershed level.

Indicators:

- Area covered by sustainable land and water resources management practices
- Annual catchment of water (m^3/year) that complies with quantity (m^3/year) and quality (e.g. turbidity) requirements by utilities.

4. Waste Management and Resource Efficiency

The indicators proposed herein aim to capture and illustrate the environmental and sustainability benefits of projects relating to waste management and resource-efficiency, which are recognised by the GBP for Green Projects under one of the ten broad categories of eligibility for Green Projects:

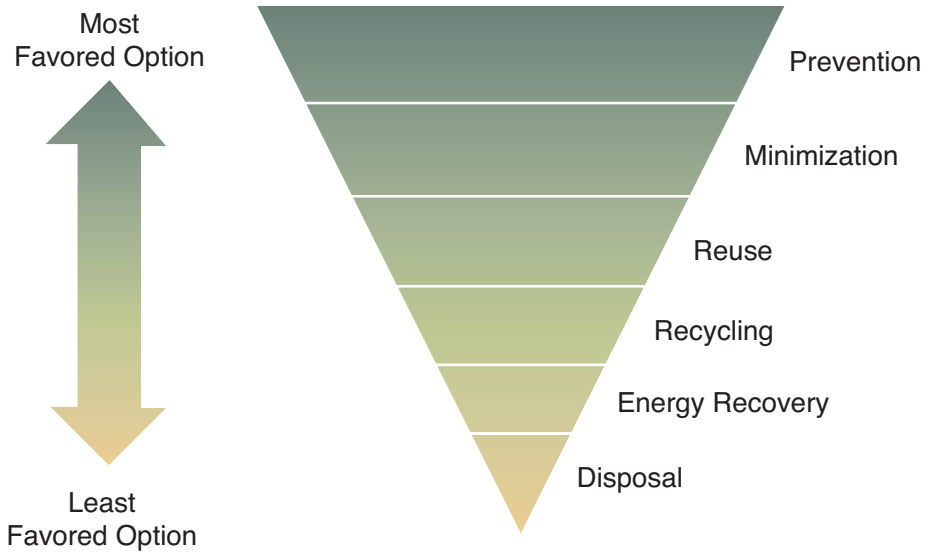
"pollution prevention and control (including…waste prevention, waste reduction, waste recycling and energy/emission-efficient waste to energy…)"

This guidance builds on the previous work on **Sustainable Water and Wastewater Projects**, and thus the indicators proposed here focus only on supplementary waste management projects.[14]

Although relevant projects may also reference categories focused on "eco-efficient and/or circular economy adapted products, production technologies and processes…", this is a separate eligible category under the GBP, which is expected to be covered more fully in the future.

While this document proposes certain quantitative impact reporting metrics, the GBP also encourages issuers to provide qualitative information in relation to their waste management projects, whether they be focused on reducing pollution by introducing or improving waste management systems or focused on improved use of resources. Such qualitative information is also encouraged to provide for a meaningful contextualisation of the baseline situation and the improved solution as a result of the project. For waste management projects, this information may be especially meaningful when it covers the entire management system, including characterisation of waste sources, collection system (separate collection or not), waste recovery and re-use solutions (including which materials are being reused/recycled) and waste disposal, rather than isolated parts of it. In evaluating the environmental and sustainability benefits of waste management projects, it is especially useful for issuers to reference the broadly acknowledged "waste hierarchy" in any qualitative reporting on their waste strategy. This seeks to prioritise those activities that are optimal in managing resources and protecting the environment through extracting the greatest benefit with the minimum of waste generated.

This waste hierarchy is typically presented in the following schematic form:



As can be seen from this diagrammatic representation, waste prevention is the preferred option, followed sequentially by minimisation, reuse, recycling, energy recovery and finally safe disposal. Descriptive examples for each of these options are contained under Guidance and Definitions below.

14 This document therefore excludes wastewater projects, and, in alignment with the EU waste Framework Directive **http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006L0012&from=EN** it also excludes gaseous effluents, radioactive waste, waste from waste resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries, animal carcasses and natural, non-dangerous agricultural waste, as well as decommissioned explosives.

The proposed core and other sustainability indicators are designed to facilitate quantitative reporting at a project and/or at a portfolio level across geographies. The importance of the geographic context in the assessment of solutions reinforces the benefit of providing additional contextual information. We therefore encourage disclosure on the national and regional context, including waste volume and waste management solution specific baselines, to help understand the environmental impacts/benefits of the project in its context. Additional qualitative reporting is also encouraged.

Greenhouse gas (GHG) emission reductions are an important green benefit of waste management and resource recovery interventions through avoidance of methane emissions from waste disposed of by preventing, minimising, reusing or recycling waste, production of energy from waste that substitutes for more emissions intensive energy sources and mitigating GHG emissions from waste disposal sites. These projects (such as composting; waste reduction, recycling and reuse; landfill gas capture and collection; anaerobic digestion; waste to energy (thermal treatment) etc.) are motivated significantly by reducing GHG and there are approaches for estimating these emissions.

For meaningful aggregation of indicators across projects, consistency in the methods of calculation, baselines and benchmarks would be required. Thus for the purpose of data quality, issuers are encouraged to disclose additional technical reports 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.

Guidance and Definitions

Waste Management activities at each level of the Waste Management hierarchy may be described as follows:

Waste Prevention:

- Any operation that reduces at source the quantity of waste before recycling, composting, energy recovery and landfilling become options.

Waste Minimisation:

Any operation that:

- reduces the quantity of material used in the creation of products and increases the efficiency with which products, once created, are used;
- limits unnecessary consumption by designing and consuming products that generate less waste; *and/or*
- checks, cleans or repairs products or components that have become waste in preparation for reuse without any other pre-processing.

Waste Reuse:

- Any operation that reuses products or components for the same purpose for which they were conceived.

Waste Recycling:

- Any operation that recovers and reprocesses waste materials into materials or substances whether for the same purpose for which they were conceived, or for other purposes.

Energy Recovery:

- Any operation that converts non-recyclable waste materials into usable heat, electricity or fuel.

Waste Disposal:

- Any operation which is not waste recovery.

Core Indicators

A. Waste Management Projects – Resource Efficiency

#1) Waste prevented, minimised, reused or recycled

Indicators:

- Waste that is prevented, minimised, reused or recycled before and after the project in % of total waste and/or in absolute amount in tonnes p.a.
- For certain waste management projects that reduce the amount of waste disposed of, it may also be possible to capture GHG emissions from waste management before and after the project in tCO_2–e p.a.

Benchmarks:

- *Internationally recognised benchmark standards for waste management (e.g. EU Waste Policy and Waste Framework Directive statistics and reports)*
- *Internationally recognised tools for calculating Greenhouse Gases (GHG) in Solid Waste Management (SWM), such as the SWM-GHG Calculator (***https://www.ifeu.de/en/project/tool-for-calculating-greenhouse-gases-ghg-in-solid-waste-management-swm/***) or EPA's Waste Reduction Model (WARM,* **https://www.epa.gov/warm***)*

B. Energy Recovery from Waste Including Energy/Emission-Efficient Waste to Energy Projects

#2) Energy recovered from waste

Annual amount of energy that is recovered from waste before and after the project in an environmentally sound manner through specified methods:

- *Energy recovered (e.g. through landfill gas collection, anaerobic digestion plants, waste-to-energy generation, biomass gasification, Mechanical Biological Treatment etc.)*

Indicators:

- Annual energy generation from non-recyclable waste in energy/emission-efficient waste to energy facilities in MWh/GWh (electricity) and GJ/TJ (other energy)
- Energy recovered from waste (minus any support fuel) in MWh/GWh/KJ of net energy generated p.a.[15]
- GHG emissions from waste management before and after the project in tCO_2–e p.a.

Benchmarks:

- *Internationally recognised tools for calculating Greenhouse Gases (GHG) in Solid Waste Management (SWM), such as the SWM-GHG Calculator (***https://www.ifeu.de/en/project/tool-for-calculating-greenhouse-gases-ghg-in-solid-waste-management-swm/***) or EPA's Waste Reduction Model (WARM,* **https://www.epa.gov/warm***)*
- *Internationally recognised standards for air emissions from waste to energy facilities (e.g. EU Directive on Waste Incineration, EU Industrial Emissions Directive and Best Available Techniques reference document for waste incineration)*

15 Where supporting fuel is added in order to facilitate the combustion of waste, the energy from this fuel should be subtracted from the total energy generated.

C. Pollution Control Projects

#3) Waste collected and treated or disposed

Collection and treatment or disposal of waste (according to country legislation compatible with internationally recognised standards):

- *Waste that is separated and/or collected, and treated (including composted) or disposed of in an environmentally sound manner before and after the project. (This presumes no leakage of contaminants.)*

Indicators:

- Annual absolute (gross) amount of waste that is separated and/or collected, and treated (including composted) or disposed of (in tonnes p.a. and in % of total waste)

Benchmarks:

- *Internationally recognised benchmark standards for waste separation and/or collection and environmentally sound waste disposal, such as EU Landfill Directive.*

Other Sustainability Indicators

#1) Resource efficiency/reduction in raw materials used in manufacturing

Indicators:

- KG of raw material per produced unit before and after
- Added monetary value created using waste

#2) Improved access to municipal waste collection (including separation)

The increase in the share of the population with access to waste collection helps in domestic waste pollution abatement.

Indicators:

- Number of people or % of population with access to waste collection under the project
- Area with improved regular (daily, weekly or bi-weekly) waste collection service
- How many fractions of waste were separated before and after the project
- The absolute amount or % of residual non-separated waste before and after the project

#3) Improved and regular access to street sweeping

Indicators:

- Number of people or % of population with access to street sweeping under the project
- Km of street with regular (daily, weekly or bi-weekly) street sweeping service coverage

#4) Improved municipal waste treatment or disposal services

Indicators:

- Number of people or % of population provided with improved municipal waste treatment or disposal services

#5) Improved recycling programmes

Indicators:

- Number of people benefitting from selective collection of recyclables
- Number of informal recyclers integrated into a formal system

#6) Reduced local pollution to air and/or water

Indicators:

- Absolute or % reduction in local pollutants

#7) Manufacturing for the circular economy

Indicators:

- Tons of waste reduced
- Products changed to increase waste reduction
- Tons of secondary raw materials or compost produced

5. Clean Transportation

The indicators proposed herein aim to capture and illustrate the environmental and sustainability benefits of projects relating to clean transportation, which are recognised by the GBP for Green Projects under one of the ten broad categories of eligibility for Green Projects:

"clean transportation (such as electric, hybrid, public, rail, non-motorised, multi-modal transportation, infrastructure for clean energy vehicles and reduction of harmful emissions)".

This guidance builds on the previous work on **Sustainable Water and Wastewater Projects** as well as **Waste Management and Resource-Efficiency Projects** and thus the indicators proposed here focus only on additional factors specific to clean transportation projects.[16]

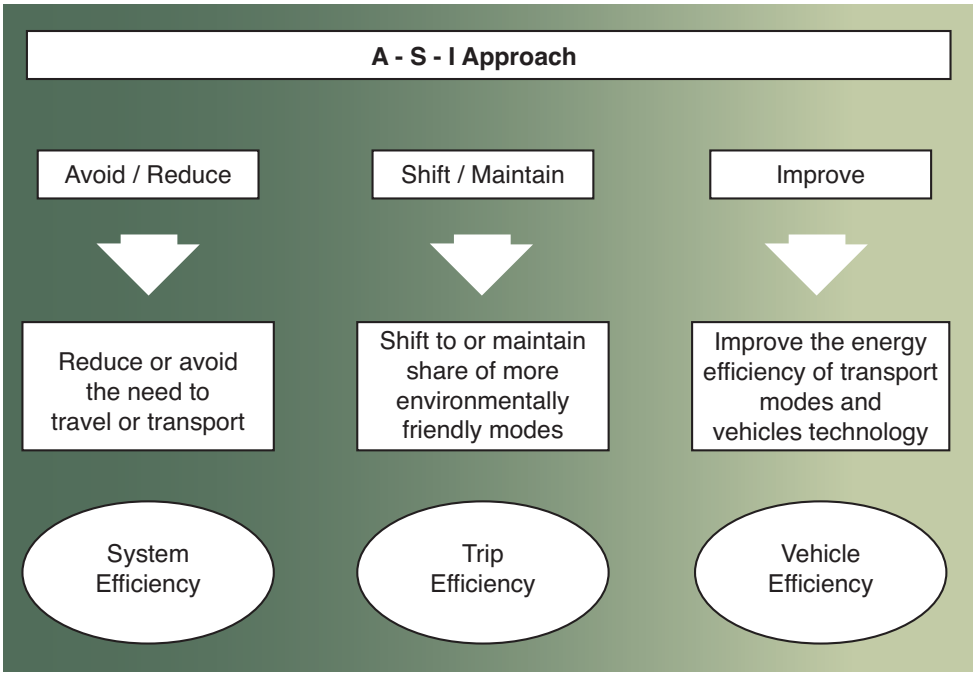
This section does not cover impact reporting on projects focussed specifically on the design and manufacturing of clean vehicles and vehicle parts, which may be deemed to fall under another GBP category: "eco-efficient products, production technologies and processes…". The authors of this document acknowledge the importance of developing harmonised indicators for such projects in the future.

While this document proposes certain quantitative impact reporting metrics, the GBP also encourages issuers to provide qualitative information in relation to their clean transportation projects, whether they be focused on reducing pollution or focused on improved use of resources. Such qualitative information is also encouraged to provide for a meaningful contextualisation of the baseline situation and the improvement as a result of the project. For clean transportation projects, this information may be especially meaningful when it covers the entire life-cycle, including the decommissioning of vehicles, as well as the local and/or regional context in which the project is undertaken. In evaluating the environmental and sustainability benefits of clean transportation projects, it may be useful for issuers to reference the "sustainable transport hierarchy" in any qualitative reporting on their transportation strategy. This seeks to prioritise those activities that are optimal in managing resources and protecting the environment.

While the GBP category, as noted above, uses the term "clean transportation", the Green Bond market aims to finance projects that make a significant contribution to environmental sustainability. This therefore may be deemed to encompass all ambitious "cleaner" transport projects that represent meaningful progress towards this goal. Furthermore, examples of benchmarks developed by internationally recognised conventions and initiatives are given below. These should not be seen as baselines for the determination of clean transportation projects: in certain jurisdictions, meeting an internationally recognised standard may require a significant improvement beyond "business as usual", whereas in other geographies the same standard may represent a mandatory baseline. In such cases, an eligible transportation project may be expected to drive for a meaningful outperformance of the benchmark.

16 This document therefore excludes, for example, the management of ship-generated waste and associated waste reception facilities, the decommissioning of vehicles, as well as improvements to water usage associated with the clean transportation project.

This sustainable transport hierarchy may be presented in the following schematic form:



As can be seen from this diagrammatic representation[17] of the "Avoid-Shift-Improve (ASI)" approach, demand reduction is the preferred option, followed sequentially by modal shift, and finally by transport efficiency improvements. Descriptive examples for each of these options are contained under Guidance and Definitions below.

The proposed core and other sustainability indicators are designed to facilitate quantitative reporting at a project and/or at a portfolio level across geographies. The importance of the geographic context in the assessment of solutions reinforces the benefit of providing additional relevant information. We therefore encourage disclosure on the national, regional and local context, including information on the population served, pollution levels, and specific CO_2 electricity grid baselines. Such information, as well as the rate and level of shift under the ASI approach helps to understand and provide more accurate assessments of the environmental impacts/benefits of the project in its context. Additional qualitative reporting is also encouraged.

For a meaningful assessment of the aggregate impact of projects, consistency in the methods of calculation, baselines and benchmarks is necessary. Thus for the purpose of data quality, issuers are encouraged to disclose additional technical reports 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.

Guidance and Definitions

Clean transportation activities at each level of the ASI sustainable transport hierarchy may be described as follows:-

Avoid/Reduce:

- Any operation that avoids the need to travel or reduces the length of travel, including through integrated land-use planning, and transport demand management[18].

Shift/Maintain:

- Any operation that moves people or freight to a more sustainable and less polluting means of transportation, such as cycling, walking, buses, ferries, trains and trams.

Improve:

- Any operation that reduces the emissions (both GHG and local pollutants) of vehicles or the transport system.

17 Ref: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

18 Improved internet connectivity may also contribute significantly, to the avoidance or reduction of travel, however, it does not fit readily into the Clean Transportation project category.

Core Indicators

A. Clean Transportation Projects

- **Procurement and/or deployment of clean transportation (modal shift)**
  Any operation that moves people or freight to a significantly more sustainable and less polluting means of transportation
- **Deployment of clean transportation (low emissions)**
  Any operation that reduces GHG emissions and/or air pollutants per unit of service provided through, for example, fuel switch or technology switch taking account of fuel production and electricity generation, including projected changes[19]

B. Construction of Clean Transport Infrastructure[20]

- **Construction, extension and/or improvement to core sustainable transport infrastructure**
  e.g. constructing or electrifying train tracks, clean utility connections in port, constructing or improving bicycle lanes, bicycle parking and bicycle sharing schemes
- **Construction and/or improvement to the auxiliary sustainable transport infrastructure** e.g. stations, terminals, electric vehicle charging infrastructure, network and traffic management systems, connected and automated transport technologies, smart mobility systems, and the development and deployment of alternative transport fuels

Indicators:

- Passenger-kilometres (i.e. the transport of one passenger over one kilometre) and/or passengers; or tonne-kilometres (i.e. the transport of one tonne over one kilometre) and/or tonnes
- Annual GHG emissions reduced/avoided in tCO_2–e p.a.
- Reduction of air pollutants: particulate matter (PM), sulphur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), and non-methane volatile organic compounds (NMVOCs)

Benchmarks:

- *Internationally recognised benchmark standards for Clean Transport (e.g. EURO VI Standard, IMO, MARPOL, and WHO guidelines for particulate matter concentration)*
- *Internationally recognised tools for calculating Greenhouse Gases (GHG) in sustainable transportation projects such as the Global Fuel Economy Initiative (GFEI) in the IEA 2DS.*
- *Internationally recognised benchmark standards for sustainable transport infrastructure.*
- *IEC/IEEE 80005 -2:2016 for utility connections in port*

19 For example, deployment of electric vehicles may be considered a clean transportation project although it may not necessarily reduce GHG emissions in the near term.
20 Tracks or auxiliary infrastructure projects that are substantially for the transportation of fossil-fuel related freight should be excluded.

Other Sustainability Indicators

#1) Deployment of clean transportation

Indicators:

- Annual Absolute (gross) GHG emissions in tCO_2–e
- Number of clean vehicles deployed (e.g. electric)
- Estimated reduction in car/truck use in number of kilometres driven or as share of total transport ridership
- Estimated reduction in fuel consumption

#2) Construction or improvement to core infrastructure

Indicators:

- Annual Absolute (gross) GHG emissions in tCO_2–e
- Total in kilometres of new or improved train lines/dedicated bus, BRT, LRT corridors bicycle lanes
- Reduction in weather-related disruption (days p.a). and/or risk frequency (%)
- Ambient noise reduction from the transport infrastructure in decibels
- Estimated change in land consumption for transport infrastructure
- Number of hectares compensated[21]
- Number of wildlife crossings created
- Volume of re-used or recycled rail material for rail, or port infrastructure in tons

#3) Construction or improvement to auxiliary infrastructure

Indicators:

- Annual Absolute (gross) GHG emissions in tCO_2–e
- Improved luminance or road surface reflection coefficient (cd/m^2)
- Number of LED or SSL lighting fixtures with lumen/watt (Lm/W).
- Ambient noise reduction in decibels

#4) Projects aimed at avoidance or reduction of transport use

Indicators:

- Annual Absolute (gross) GHG emissions in tCO_2–e
- Land use density including 'transit oriented development' (people and jobs per unit of land area)
- Estimated reduction in car use in number of kilometres driven or as share of total transport ridership
- Increase of households with internet access (absolute or percentage)
- Reduction in congestion[22]

21 The securing of an equivalent area to the land utilised by the infrastructure project should have comparable conservation value

22 calculated on the vehicle speed (based on **https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/measuring-road-congestion**)

6. Green Buildings

The indicators proposed herein aim to capture and illustrate the environmental and sustainability benefits of projects relating to green buildings, which are recognised by the GBP for Green Projects under one of the ten broad categories of eligibility for Green Projects:

"green buildings which meet regional, national or internationally recognised standards or certifications".

The GBP category for Green Buildings is understood to address broad considerations such as water usage and waste management in addition to energy consumption, whereas a focus solely on energy-efficiency and low carbon in buildings would come under the GBP category "energy efficiency (such as in new and refurbished buildings…)", and it is therefore recommended that these projects be reported using the relevant indicators and templates outlined in reference to Energy Efficiency in **chapter IV.2** and **chapter V** respectively.

This document does not cover impact reporting on projects focused specifically on resilience to climate change, which may be deemed to fall under another GBP category: "climate change adaptation". The authors of this document acknowledge the importance of developing harmonised indicators for such projects as well**.**

While this document proposes certain quantitative impact reporting metrics, the GBP also encourages issuers to provide qualitative information in relation to their green building projects, whether they be for new buildings or the retrofitting of existing buildings. Such qualitative information is also encouraged to provide for a meaningful contextualisation of the baseline situation and the improvement as a result of the project. For green building projects, as is highlighted in the aforementioned wording of this GBP category, regional, national or (optimally) internationally recognised standards or certifications are key, providing important baselines against which the green building project can be benchmarked. Other salient information such as the siting of the building and its purpose may be critical to understanding the design of the project, and its benefits in managing resources and protecting the environment. Indeed, while, as aforementioned, this document does not cover impact reporting on projects focussed specifically on resilience to climate change, which may be deemed to fall under the GBP category of "climate change adaptation" for which specific metrics are yet to be proposed, the reporting of pertinent information on building resiliency to address such risks as flood prevention, heat stress and water shortages is nevertheless strongly encouraged.

While the GBP category, as noted above, uses the term "green buildings", the Green Bond market aims to finance projects that make a significant contribution to environmental sustainability. This therefore may be deemed to encompass all ambitious "sustainable" building projects that represent meaningful progress towards this goal across all core dimensions. Although the highest potential to reduce energy consumption will result from improvements made to the existing building stock, we recognise that the needs of society and the economy will continue to drive demand for new buildings. While the construction phase will have a significant impact on the environment, including the climate, and few if any new buildings are, in reality, "zero energy buildings", we nonetheless understand the GBP's Green Building category to encompass any new building that minimises the impact of both its construction and life-cycle use on the environment in line with ambitious regulatory requirements and best industry practice.

Furthermore, examples of benchmarks developed by internationally recognised conventions and initiatives are given below. These should not be seen as baselines for the determination of green building projects: in certain jurisdictions, meeting an internationally recognised standard may require a significant improvement beyond "business as usual", whereas in other geographies the same standard may represent a mandatory baseline. In such cases, an eligible green building project may be expected to drive for a meaningful outperformance of the benchmark.

The proposed core and other sustainability indicators are designed to facilitate quantitative reporting at a project and/or at a portfolio level across geographies. The importance of the geographic context in the assessment of solutions reinforces the benefit of additional disclosures, such as the national, regional and local context, information on the population served, pollution levels, and specific CO_2 electricity grid baselines. Where fossil fuels are used on-site, it will be important to understand whether these are lower carbon content fuels and how the project promotes the transition to "Zero Net Carbon". While the Core Indicators proposed focus on the construction, development and refurbishment of Green Buildings, and are thus also relevant to their purchase, several Other Sustainability Indicators are relevant to the management of Green Buildings over time.

For a meaningful assessment of the aggregate impact of projects, consistency in the methods of calculation, baselines and benchmarks is necessary. Thus for the purpose of data quality, issuers are encouraged to disclose additional technical reports 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 such as LEED, BREEAM and BEAM. We note, however, that many of these assessments and standards incorporate evaluations that extend beyond environmental factors, and thus issuers should seek to provide greater transparency on their scores against the "green" requirements.

Guidance and Definitions

New Buildings: New construction and the development of buildings must take account of their impact on ecosystems and biodiversity. Where no certification standard is available or where the certification standard referenced does not provide an analysis of location considerations, these should be highlighted in reporting in particular to demonstrate how construction activities have avoided building on land that should be protected, how access to public transportation is incorporated, and any measures taken to offset negative impacts on biodiversity.

Retrofitted Buildings: The retrofit, upgrade or renovation of an existing building, building unit, or any building component or system should take into consideration all efforts to improve energy performance (or reduce energy use for comparable quality of enabling environment and for comparable services) in order to meet some minimum energy efficiency criteria whenever this is technically, functionally and economically feasible.

Where both the purpose of the building and its use remain unchanged, the improved performance of the building can be reported against that attained prior to the project. Where the purpose and/or use of the building has been altered, the improved performance should be measured against baselines and benchmarks applicable to new buildings.

Energy Use: The annual energy input to the building in order to satisfy the energy needs associated with a typical use of the building and by the building services that provide an enabling environment in the building. It encompasses the amount of energy needed to meet the energy demand associated with, inter alia, energy used for heating, cooling, air-conditioning, ventilation, hot water and lighting.

Primary Energy Use: Energy from renewable and non-renewable sources used in buildings and which has not undergone any conversion or transformation process. For further guidance on calculation of Primary Energy Use including renewable energy generated on site, ISO EN standards or applicable national methodologies for energy and carbon performance assessment in buildings.

Final Energy Use: The total energy consumed by end-users in their building assets. It is the energy which reaches the final user's asset and excludes the energy used by the energy sector itself.

Gross Building Area (GBA): Gross Building Area, also named Gross Floor Area ("GFA") corresponds to the total floor area contained in a building measured to the external walls. The physical environmental impact comes from the entire building, and therefore Gross Building Area is more relevant than Gross Letting Area, which is the amount of floor space available to be rented.

Certification Schemes: While the importance of international certification schemes as industry benchmarks is highlighted by their prime position in the proposed Core Indicators, the associated costs and processes may be deemed prohibitive for small local players, or large portfolios of very small assets. Locally applicable proxies may therefore provide a relevant baseline when compatible with the major international certification schemes.

Core Indicators[23]

A. Energy Performance

#1 Final and/or Primary Energy Use - in new buildings or retrofitted buildings

Indicators:

- kWh/m² of GBA p.a.; and % of energy use reduced/avoided vs local baseline/building code; and, if relevant % of renewable energy (RE) generated on site (specifying the relevant RE form)

B. Carbon Performance

#2 Carbon reductions - in new buildings or retrofitted buildings

Indicators:

- $kgCO_2/m^2$ of GBA p.a; and
- Annual GHG emissions reduced/avoided[24] in tonnes of CO_2 equiv. vs local baseline/baseline certification level; and/or
- % of carbon emissions reduced/avoided vs local baseline/baseline certification level

C. Water Efficiency and Savings

#3 Water efficiency - in new buildings or retrofitted buildings

Indicators:

- m^3/ m^2 of GBA p.a **;** and Annual absolute (gross) water use before and after the project in m^3/a (for retrofitted buildings) and/or
- % of water reduced/avoided vs local baseline/baseline certification level/IGCC /International Plumbing Code

D. Waste Management

#4 Waste management in the construction/demolition/refurbishment process in new or retrofitted buildings

Indicators:

- Amount p.a. of waste minimised, reused or recycled in % of total waste and/or in absolute (gross) amount in tonnes p.a.
- Waste removed in tonnes

E. Certification Standard, if available

#5 Type of scheme, certification level and m² GBA

Benchmarks:

Internationally and nationally recognised standards for Green Buildings such as LEED (Leadership in Energy and Environmental Design), BREEAM (Building Research Establishment Environmental Assessment Method), ANSI/ ASHRAE/IES/USGBC Standard 189.1 Standard for the Design of High-Performance Green Buildings and/or the International Green Construction Code; other standards for Green Buildings widely known and/or used in the industry locally, such as CEEQUAL, DGNB, EDGE, the International Energy Conservation Code (IECC), the US Property Assessed Clean Energy Programs (PACE), Passive House or Swiss Minergie, when compatible with the aforementioned standards; National Minimum Requirements for Energy Efficiency in Buildings in EU states (based on the EU Energy Efficiency Directive) and Energy Performance Certificates (EPCs), or national certification schemes.

23 Issuers that report on energy-efficient buildings are recommended to refer to core indicators and reporting templates of the energy efficiency section of this handbook (please see chapters **IV.2** and **V.** respectively).

24 International guidelines for the calculation of emissions avoided, such as the GHG Protocol may provide further guidance for calculations.

Other Sustainability Indicators

#1) Use of materials with lower environmental footprint - for both new buildings and retrofitted buildings

Indicators:

- Embodied energy (and carbon) over life-cycle ("cradle to grave"), in tons CO_2
- % of embodied energy (and carbon) reduced over life-cycle ("cradle to grave"), vs local benchmark/baseline

#2) Land Use and Biodiversity – for new buildings

Indicators:

- Land remediated/decontaminated/regenerated, in ha or m^2
- % of unadulterated Green spaces before and after the project

#3) Water Efficiency - for both new buildings and retrofitted buildings

Indicators:

- Amount of rainwater harvested and reused in m^3/a
- Recharge to groundwater in mm/d, mm/a

#4) Waste Management - in the use of both new buildings or retrofitted buildings

Indicators:

- Recycling, re-use or composting of non-hazardous waste in %

#5) Indoor Air Quality - for both new buildings and retrofitted buildings

Indicators:

- Reduction of particulate matter vs local baseline: sulphur oxides (SOx), and nitrogen oxides (NOx) carbon monoxide (CO), (PM2.5/PM10) and non-methane volatile organic compounds (NMVOCs)

#6) Light quality and energy efficiency - for both new buildings and retrofitted buildings

Indicators:

- Number of LED or SSL lighting fixtures with lumen/watt (Lm/W)
- Energy efficiency from installation of motion detectors (kWh) vs baseline/previous equipment
- Energy efficiency from installation of low-E window glass panels vs baseline/previous equipment

#7) Transport connectivity and clean transportation infrastructure – for both new buildings and retrofitted buildings

Indicators:

- Land use density including 'transit oriented development' (people and jobs per unit of land area)
- Number of Electric vehicle charging stations as a % of total parking and/or number of bicycle facilities provided
- Distance (in Km) to public transportation (thereby reducing the scope 3 emissions of the building).

Illustrative Summary Template for Project-by-Project Report:

Renewable Energy (RE)	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	RE component	Allocated Amount c/	Project lifetime d/	#2) Annual generation (electricity / other)		#3) a) Renewable energy capacity added	#3) b) Renewable energy capacity rehabilitated	#1) Annual GHG emissions reduced/avoided e/	Other Indicators
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	MW/ GWh	GJ/ TJ	MW	MW	in tonnes of CO_2 equivalent	
e.g. Project 2	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	Capacity of RE plant(s) to be served by transmission systems (MW) XX t CO_2 eq. Absolute annual project emissions.

Illustrative Summary Template for Portfolio-based Report[25]:

Renewable Energy (RE)	Signed Amount a/	Share of Total Portfolio Financing b/	Eligibility for green bonds	RE component	Allocated Amount c/	Average portfolio lifetime d/	#2) Annual generation (electricity/other), possibly per unit of financing		#3) a) Renewable energy capacity added (possibly per unit of financing)	#3) b) Renewable energy capacity rehabilitated (possibly per unit of financing)	#1) Annual GHG emissions reduced/avoided (possibly per unit of financing) e/	Other Indicators (possibly per unit of financing)
Portfolio name	currency	%	%	%	currency	years	MWh/ GWh	GJ/TJ	MW	MW	in tonnes of CO_2 equivalent	
e.g. Portfolio 2	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	Capacity of RE plant(s) to be served by transmission systems (MW) XX t CO_2 eq. Absolute annual portfolio emissions

25 The issuer should disclose the approach underlying the results (see item 6. of the core principles/recommendations), i.e. specify whether the portfolio report:
- Aggregates project-by-project results including only the pro-rated share (as a percentage of the issuer's share of the total financing) of the total projects' results (**portfolio report based on project-by-project allocations**), or
- Reports only of the overall results of the portfolio (**portfolio report based on portfolio allocations**).

Illustrative Summary Template for Project-by-Project Report:

Energy Efficiency (EE)	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	EE component	Allocated Amount c/	Project lifetime d/	#1) Annual energy savings (electricity / other)		#2) Annual GHG emissions reduced/ avoided e/	Other Indicators
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	MWh/ GWh	GJ/TJ	in tonnes of CO_2 equivalent	
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX people benefited; XXX t CO_2 eq. Absolute annual project emissions.

Illustrative Summary Template for Portfolio-based Report:

Energy Efficiency (EE)	Signed Amount a/	Share of Total Portfolio Financing b/	Eligibility for green bonds	EE component	Allocated Amount c/	Average portfolio lifetime d/	#1) Annual energy savings (electricity / other), possibly per unit of financing		#2) Annual GHG emissions reduced/avoided (possibly per unit of financing) e/	Other Indicators per unit (possibly per unit of financing)
Portfolio name	currency	%	%	%	currency	years	MWh /GWh	GJ/TJ	in tonnes of CO_2 equivalent	
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX people benefited; XX t CO_2 eq. Absolute annual project emissions.

Illustrative Summary Template for Project-by-Project Report:

Sustainable Water Management Projects	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Sustainable Water Management component	Allocated Amount c/	Project lifetime d/	#1) Annual absolute (gross) water savings e/		Other Indicators
Project name f/	currency	%	% of signed a mount	% of signed amount	currency	in years	in m^3/a	in %	~ No. of people with access to clean drinking water (or volume of clean drinking water in m^3/a) through infrastructure supporting sustainable and efficient water use ~ Number of people, or enterprises benefitting from measures to mitigate the consequences of floods etc.
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	

Wastewater Treatment Projects	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Sustainable Wastewater Management Component	Allocated Amount c/	Project lifetime d/	#2) Annual absolute (gross) amount of wastewater treated, reused or avoided e/			#3) i) Annual absolute (gross) amount of raw/ untreated sewage sludge that is treated and disposed of e/		#3) ii) Annual absolute (gross) amount of sludge that is reused e/		Other Indicators
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	in m^3/a	in p.e./a	in %	in tonnes of dry solids p.a.	in %	in tonnes of dry solids p.a.	in %	~ No. of people with access to improved sanitation facilities
e.g. Project 2	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	

Illustrative Summary Template for Portfolio-based Report:

Sustainable Water Management Portfolios	Signed Amount a/	Share of Total Projects Financing b/	Eligibility for green bonds	Sustainable Water Management component	Allocated Amount c/	Average Portfolio lifetime d/	#1) Annual absolute (gross) water savings e/		Other Indicators
Portfolio name	currency	%	% of signed amount	% of signed amount	currency	in years	in m^3/a	in % (weighted average)	~No. of people with access to clean drinking water (or volume of clean drinking water in m^3/a) through infrastructure supporting sustainable and efficient water use ~Number of people, or enterprises benefitting from measures to mitigate the consequences of floods etc.
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	

Wastewater Treatment Portfolios	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Sustainable Wastewater Management Component	Allocated Amount c/	Average Portfolio lifetime d/	#2) Annual absolute (gross) amount of wastewater treated, reused or avoided e/			#3) i) Annual absolute (gross) amount of raw/ untreated sewage sludge that is treated and disposed of e/		#3) ii) Annual absolute (gross) amount of sludge that is reused e/		Other Indicators
Portfolio name	currency	%	% of signed amount	% of signed amount	currency	in years	in m^3/a	in p.e./a	in % (weighted average)	in tonnes of dry solids p.a.	in % (weighted average)	in tonnes of dry solids p.a.	in % (weighted average)	~No. of people with access to improved sanitation facilities
e.g. Portfolio 2	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	

Illustrative Summary Template for Project-by-Project Report:

Waste Management Projects – Resource Efficiency	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Waste Management component	Allocated Amount c/	Project lifetime d/	#1) i) Waste prevented, minimised, reused or recycled e/		#1) ii) Annual GHG emissions reduced e/	Other Indicators
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	in % of total waste	in tonnes p.a.	in tonnes of CO_2 equivalent p.a.	~ KG of raw material per produced unit before and after ~ Added monetary value created using waste ~ Products changed to increase waste reduction ~ Tons of secondary raw materials or compost produced
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	

Energy Recovery from Waste Projects	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Energy Recovery from Waste component	Allocated Amount c/	Project lifetime d/	#2) i) Annual energy generation from non-recyclable waste (electricity/other energy) e/		#2) ii) Annual energy recovered from waste (minus any support fuel) of net energy generated e/	#2) iii) Annual GHG emissions reduced e/
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	in MWh/GWh	in GJ/TJ	in MWh/GWh/KJ	in tonnes of CO_2 equivalent p.a.
e.g. Project 2	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

Pollution Control Projects	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Pollution Control component	Allocated Amount c/	Project lifetime d/	#3) Waste separated and/ or collected and treated or disposed in environmentally sound manner e/		Other Indicators
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	in % of total waste	in tonnes p.a.	~ Number of people or % of population with access to waste collection ~ Area with improved regular waste collection service ~ How many fractions of waste were separated ~ Absolute amount or % of residual non-separated waste ~ Number of people or % of population with access to street sweeping etc.
e.g. Project 3	XX	XX	XX	XX	XX	XX	XX	XX	

Illustrative Summary Template for Portfolio-based Report:

Waste Management Portfolios – Resource Efficiency	Signed Amount a/	Share of Total Projects Financing b/	Eligibility for green bonds	Waste Management component	Allocated Amount c/	Average Portfolio lifetime d/	#1) i) Waste prevented, minimised, reused or recycled e/		#1) ii) Annual GHG emissions reduced e/	Other Indicators
Portfolio name	currency	%	% of signed amount	% of signed amount	currency	in years	in % of total waste	in tonnes p.a.	in tonnes of CO_2 equivalent p.a.	~ KG of raw material per produced unit before and after ~ Added monetary value created using waste ~ Products changed to increase waste reduction ~ Tons of secondary raw materials or compost produced
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	

Energy Recovery from Waste Portfolios	Signed Amount a/	Share of Total Projects Financing b/	Eligibility for green bonds	Energy Recovery from Waste component	Allocated Amount c/	Average Portfolio lifetime d/	#2) i) Annual energy generation from non-recyclable waste (electricity/ other energy) e/		#2) ii) Annual energy recovered from waste (minus any support fuel) of net energy generated e/	#2) iii) Annual GHG emissions reduced e/
Portfolio name	currency	%	% of signed amount	% of signed amount	currency	in years	in MWh/GWh	in GJ/TJ	in MWh/GWh/KJ	in tonnes of CO_2 equivalent p.a.
e.g. Portfolio 2	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

Pollution Control Portfolios	Signed Amount a/	Share of Total Projects Financing b/	Eligibility for green bonds	Pollution Control component	Allocated Amount c/	Average Portfolio lifetime d/	#3) Waste separated and/ or collected and treated or disposed in environmentally sound manner e/		Other Indicators
Portfolio name	currency	%	% of signed amount	% of signed amount	currency	in years	in % of total waste	in tonnes p.a.	~ Number of people or % of population with access to waste collection ~ Area with improved regular waste collection service ~ How many fractions of waste were separated ~ Absolute amount or % of residual non-separated waste ~ Number of people or % of population with access to street sweeping ~ Km of street with regular street sweeping service coverage etc.
e.g. Portfolio 3	XX	XX	XX	XX	XX	XX	XX	XX	

Illustrative Summary Template for Project-by-Project Report:

Clean Transportation Projects	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Clean Transportation project component	Allocated Amount c/	Project lifetime d/	Passenger-kilometres and/or passengers or tonne-kilometres and/or tonnes e/		Annual GHG emissions reduced / avoided e/	Reduction of air pollutants e/	Other Indicators
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	Passenger kilometres and/or passengers	Tonne kilometres and/or tonnes	in tonnes of CO_2 equivalent p.a.	Particulate matter (PM), sulphur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), and non-methane volatile organic compounds (NMVOCs)	~ Annual Absolute (gross) GHG emissions in tCO_2–e ~ Number of clean vehicles deployed (e.g. electric) ~ Estimated reduction in car/truck use in number of kilometres driven or as share of total transport ridership ~ Estimated reduction in fuel consumption
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

Construction of Clean Transportation Infrastructure Projects	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Construction of Clean Transportation Infrastructure project component	Allocated Amount c/	Project lifetime d/	Passenger-kilometres and/ or passengers or tonne-kilometres and/or tonnes e/		Annual GHG emissions reduced / avoided e/	Reduction of air pollutants e/	Other Indicators
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	Passenger kilometres and/or passengers	Tonne kilometres and/or tonnes	in tonnes of CO_2 equivalent p.a.	Particulate matter (PM), sulphur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), and non-methane volatile organic compounds (NMVOCs)	~ Annual Absolute (gross) GHG emissions in tCO_2–e ~ Total in kilometres of new or improved train lines/ dedicated bus, BRT, LRT corridors bicycle lanes ~ Reduction in weather-related disruption (days p.a). and/or risk frequency (%) ~ Ambient noise reduction from the transport infrastructure in decibels etc.
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

Illustrative Summary Template for Portfolio-based Report:

Clean Transportation Portfolios	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Clean Transportation portfolio component	Allocated Amount c/	Portfolio lifetime d/	Passenger-kilometres and/or passengers or tonne-kilometres and/or tonnes e/		Annual GHG emissions reduced / avoided e/	Reduction of air pollutants e/	Other Indicators
Portfolio name	currency	%	% of signed amount	% of signed amount	currency	in years	Passenger kilometres and/or passengers	Tonne kilometres and/or tonnes	in tonnes of CO_2 equivalent p.a.	Particulate matter (PM), sulphur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), and non-methane volatile organic compounds (NMVOCs)	~ Annual Absolute (gross) GHG emissions in tCO_2–e ~ Number of clean vehicles deployed (e.g. electric) ~ Estimated reduction in car/truck use in number of kilometres driven or as share of total transport ridership ~ Estimated reduction in fuel consumption
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

Construction of Clean Transportation Infrastructure Portfolios	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Construction of Clean Transportation Infrastructure portfolio component	Allocated Amount c/	Portfolio lifetime d/	Passenger-kilometres and/or passengers or tonne-kilometres and/or tonnes e/		Annual GHG emissions reduced / avoided e/	Reduction of air pollutants e/	Other Indicators
Portfolio name	currency	%	% of signed amount	% of signed amount	currency	in years	Passenger kilometres and/or passengers	Tonne kilometres and/or tonnes	in tonnes of CO_2 equivalent p.a.	Particulate matter (PM), sulphur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), and non-methane volatile organic compounds (NMVOCs)	~ Annual Absolute (gross) GHG emissions in tCO_2–e ~ Total in kilometres of new or improved train lines/ dedicated bus, BRT, LRT corridors bicycle lanes ~ Reduction in weather-related disruption (days p.a). and/or risk frequency (%) ~ Ambient noise reduction from the transport infrastructure in decibels etc.
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

Illustrative Core Indicator Summary Template for Project-by-Project Report [26]

Green Building Projects	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Green Building component	Allocated Amount c/	Project lifetime d/	Gross Building Area (GBA)	#1) Final and/or Primary Energy Use e/			#2) Carbon reductions e/			#3) Water efficiency e/		#4) Waste management e/		#5) Certification Standard	
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	in m²	kWh/m² of GBA p.a.	% of energy use reduced/ avoided	% of renewable energy generated on site	$kgCO_2$/m² of GBA p.a.	tonnes of CO_2 equiv. reduced/ avoided p.a.	% of carbon emissions reduced/ avoided	m³/m² of GBA p.a.	annual water savings in m³/a and/or in %	waste minimised, reused, recycled in % of total waste and/or in tonnes p.a.	waste removed in tonnes	type	certification level
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

Illustrative Core Indicator Summary Template for Portfolio-based Report[26]:

Green Building Portfolios	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Green Building component	Allocated Amount c/	Average Portfolio lifetime d/	Gross Building Area (GBA)	#1) Final and/or Primary Energy Use e/			#2) Carbon reductions e/			#3) Water efficiency e/		#4) Waste management e/		#5) Certification Standard	
Portfolio name	currency	%	% of signed amount	% of signed amount	currency	in years	in m²	kWh/m² of GBA p.a.	% of energy use reduced/ avoided	% of renewable energy generated on site	$kgCO_2$/m² of GBA p.a.	tonnes of CO equiv. reduced/ avoided p.a.	% of carbon emissions reduced/ avoided	m³/m² of GBA p.a.	annual water savings in m³/a and/or in %	waste minimised, reused, recycled in % of total waste and/or in tonnes p.a.	waste re-moved in tonnes	type	certification level
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

26 Please add other indicators (see "Other Sustainability Indicators" in chapter on Green Buildings) as applicable.

Notes

a/ Signed amount represents the amount legally committed by the issuer for the project, a portfolio of projects or component that is/are 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 aggre gating 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 for disbursements to the project/ portfolio.

d/ Based on either the expected economic life or financial life of the project(s), 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.

Contact details

ICMA Paris Representative Office

62 rue la Boétie

75008 Paris

France

Tel: +33 1 70 17 64 70

greenbonds@icmagroup.org
www.icmagroup.org

Printed on recycled paper