The GBP Impact Reporting Working Group
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Suggested Impact Reporting Metrics for Clean Transportation Projects

June 2018

The preparation of this material was **led by an informal Technical Working Group comprising EBRD, EIB, KfW, NIB and The World Bank, and kindly co-ordinated by EBRD**. Special thanks are extended to this Technical Working Group, for their detailed work, that drove the preparation of this document. **The material also benefited from generous input from members of the Impact Reporting Working Group**, **coordinated by BlackRock and EBRD**, with support from ICMA.

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

Working Group Coordinators:

BlackRock
EBRD

Working Group Members:

Actiam	J.P. Morgan
Amundi	KfW
Ashurst	Kommunalbanken
Axa IM	Luxembourg Stock Exchange
Bank of America Merrill Lynch	Mirova
BNP Paribas	Moody's
Crédit Agricole CIB	Morgan Stanley
Carbone4	Natixis
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Ceres	Skandinaviska Enskilda Banken (SEB)
CICERO	SNCF Reseau
EDF	South Pole
European Investment Bank (EIB)	The Nature Conservancy
I-Care & Consult	TIAA Investments
International Finance Corporation (IFC)	White & Case
ING	World Bank
ISS-Ethix Climate Solutions	World Wild Fund for Nature (WWF)
	Yale Initiative on Sustainable Finance

Green Bonds
Working Towards a Harmonised Framework for Impact Reporting for Clean Transportation Projects

June 2018

Introduction

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

In December 2015, a working group of eleven International Financial Institutions (IFIs) published a "Harmonized Framework for Impact Reporting"[2]. The framework outlined core principles and recommendations for impact reporting in order to provide issuers with reference and guidance for the development of their own reporting and provided core indicators and reporting templates for energy efficiency and renewable energy projects.

In common with the release in June 2017 of a harmonised framework for impact reporting on sustainable water and wastewater management projects and in February 2018 of a harmonised framework for impact reporting on sustainable waste management and resource-efficiency projects[3], **this document builds on the earlier framework and outlines a harmonised framework for impact reporting on sustainable transport projects.** This is one of the ten broad categories of eligibility for Green Projects under the GBP 2017. This document summarises the conclusions of an informal technical working group,[4] which has received broader input through the Impact Reporting Working Group convened by the GBP Executive Committee. It has been requested by many in the investor community, as reflected both in the GBP and in the responses to the formal consultations conducted by the GBP in 2016 and 2017.

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

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 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 as well as for projects pursuant to the remaining GBP categories**.**

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

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

[3] https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Water-Wastewater-Impact-Reporting-Final-8-June-2017-130617.pdf and https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Waste-Management-Reporting-Metrics-and-Templates-Final-230218.pdf

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

Suggested Impact Reporting Metrics for Clean Transportation Projects:

Introduction:

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 (2017) 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)".

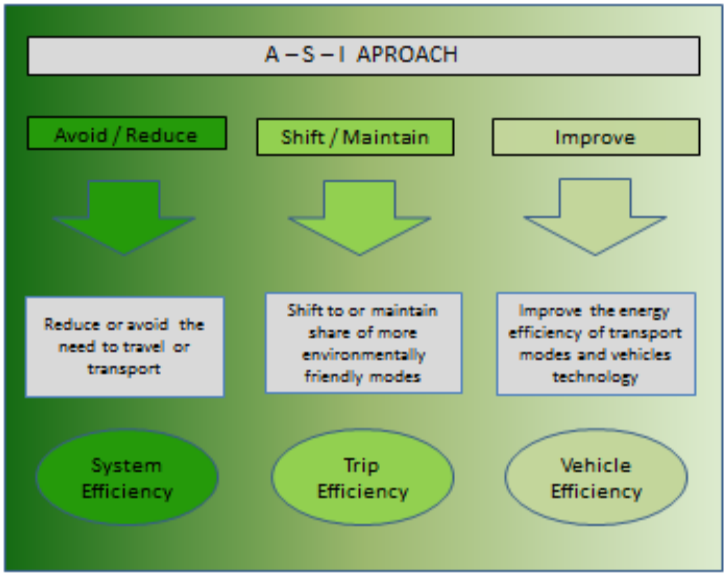
This document builds on the previous work published by the GBP Impact Reporting Working Group in June 2017 entitled "Suggested Impact Reporting Metrics for Sustainable Water and Wastewater Projects", and in February 2018 of Suggested Impact Reporting Metrics for Sustainable Waste Management and Resource-Efficiency Projects", and thus the indicators proposed here focus only on additional factors specific to clean transportation projects.[5]

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, in keeping with the aforementioned work published by the GBP Impact Reporting Working Group, this document provides examples of benchmarks developed by internationally recognised conventions and initiatives. 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.

[5] 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[6] 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 in Appendix A.

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.

[6] Ref: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Core Indicators for Clean Transportation Projects:

A. Clean Transportation Projects

#1 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

#2 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[7]

B. Construction of Clean Transport Infrastructure[8]

#3 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

#4 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 tCO2–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*

[7] *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.*

[8] *Tracks or auxiliary infrastructure projects that are substantially for the transportation of fossil-fuel related freight should be excluded.*

Other Sustainability Indicators for Clean Transportation Projects:

#1) Deployment of clean transportation

- *Indicators:*
  - *Annual Absolute (gross) GHG emissions in tCO2–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 tCO2–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*[9]
  - *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 tCO2–e*
  - *Improved luminance or road surface reflection coefficient (cd/m2)*
  - *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 tCO2–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*[10]

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

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

Appendix A:

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[11].

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.

[11] 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.

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 CO2 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 tCO2–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 CO2 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 tCO2–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* *~ Number of wildlife crossings created* *~ Volume of re-used or recycled rail material for rail, or port infrastructure in tons* *~ Improved luminance or road surface reflection coefficient (cd/m2)_* *~ Number of LED or SSL lighting fixtures with lumen/watt (Lm/W).* *~ 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*
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

Notes:

a/ Signed amount represents the amount legally committed by the issuer for the project or component that is eligible for green bond financing.

b/ This is the share of the total project cost that is financed by the issuer. Issuers may also report the total project cost. When aggregating impact metrics only the pro-rated share should be included in the total.

c/ This represents the amount of green bond proceeds that has been allocated to disbursements on the project.

d/ Based on either the expected economic life or financial life of the project, if applicable. Issuers should disclose the reporting basis used.

e/ The methodology and assumptions used should be disclosed for calculations in quantitative reporting.

f/ Confidentiality considerations may restrict the project level detail that can be disclosed, but issuers should aim to report the list of projects and either project level or aggregate level committed and allocated amounts and core indicator amounts.

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 CO2 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 tCO2–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 CO2 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 tCO2–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* *~ Number of wildlife crossings created* *~ Volume of re-used or recycled rail material for rail, port or road infrastructure in tons* *~ Improved luminance or road surface reflection coefficient (cd/m2)_* *~ Number of LED or SSL lighting fixtures with lumen/watt (Lm/W).* *~ 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*
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

Notes:

a/ Signed amount represents the amount legally committed by the issuer for a portfolio of projects or components that are eligible for green bond financing.

b/ This is the share of the total project cost financed by the issuer. Issuers may also report the total project cost. When aggregating impact metrics only the pro-rated share should be included in the total.

c/ This represents the amount of green bond proceeds that has been allocated for disbursements to the portfolio.

d/ Based on either the expected economic life or financial life of the projects, if applicable. Issuers should disclose the reporting basis used.

e/ The methodology and assumptions used should be disclosed for calculations in quantitative reporting.