



The GBP Impact Reporting Working Group

—

Suggested Impact Reporting Metrics for Climate Change Adaptation Projects

December 2020

The preparation of this material was **led by an informal Technical Working Group comprising EBRD, KfW, NIB and The World Bank, and kindly coordinated 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 EBRD and KfW**, with support from ICMA.

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

Working Group Coordinators:

- EBRD
- KfW

Working Group Members:

Actiam	CICERO Shades of Green	London Stock Exchange	Skandinaviska Enskilda Banken AB (SEB)
Amundi	Climate Bonds Initiative	Luxembourg Stock Exchange	Social Value Institute
Anglian Water	EDF	Mainstreet Investment Partners	Societe Generale
Ashurst Hong Kong office	European Investment Bank (EIB)	Mirova	South Pole
Axa IM	I Care & Consult	Mizuho International plc	The Nature Conservancy
Bank of America	ICE Data Services	Moody's	White & Case
BlackRock	Impact Investment Exchange (IIX)	Morgan Stanley	World Bank
BNP Paribas	ING	Natixis	WWF
Carbon 4	Institutional Shareholder Services Inc. (ISS)	Nordea	Yale Initiative on Sustainable Finance
Ceres	International Finance Corporation (IFC)	OP Corporate Bank	Zurich Insurance

The information in this document has been provided by third-party sources and is intended for general information only (the "Information"), and is not intended to be and should not be relied upon as being legal, financial, investment, tax, regulatory, business or other professional advice. ICMA and the Green Bond Principles are not responsible for the accuracy, reliability, currency or completeness of the Information. ICMA and the Green Bond Principles do not represent nor warrant that the Information is accurate, suitable or complete and neither ICMA, its employees or representatives, nor the Green Bond Principles or its members shall have any liability arising from, or relating to its use.

Green Bonds

Working Towards a Harmonised Framework for Impact Reporting for Climate Change Adaptation Projects

December 2020

Introduction

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

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

In common with the release of harmonised frameworks for impact reporting on sustainable water and wastewater management projects (in June 2017), for sustainable waste management and resource-efficiency projects³ (in February 2018) for clean transportation projects (in June 2018), for green buildings (in March 2019), and biodiversity projects (in March 2020), **this document builds on the earlier framework and outlines a harmonised framework for impact reporting on climate change adaptation projects.** This is one of the ten broad categories of eligibility for Green Projects under the GBP 2018.

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 2016-2019.

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 **exemplary quantitative indicators for climate change adaptation projects as well as reference reporting templates** that issuers can adapt to their own circumstances. These templates make reference to some commonly

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> and <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Clean-Transportation-Reporting-Metrics-4-June-2018.pdf>

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

used indicators, however, the working group acknowledges that other indicators might be relevant as well.

The indicators proposed herein aim to capture and illustrate the environmental and other sustainability benefits of projects relating to climate change adaptation, which is recognised by the GBP for Green Projects under one of the ten broad categories of eligibility for Green Projects:

“climate change adaptation (including information support systems, such as climate observation and early warning systems)”

Climate change adaptation projects are sector and context specific, and therefore no proposed set of indicators will likely cover all sectors and contexts. Nevertheless, the authors believe that there is a significant benefit in offering exemplars for a range of such projects.

We understand adaptation projects to be those that are focused on enhancing preparedness and resilience to expected changes in climate, as well as any actual changes experienced. This would not only include projects that seek to moderate or avoid its likely or potential harmful effects on people, nature and/or economic activities and assets (e.g. infrastructure, buildings), but may also encompass those investments that provide sustained adaptive solutions, such as fireproof roofs and other building elements to withstand higher temperatures, water-management systems for irrigation, and climate change monitoring systems. While the terms “climate change adaptation” and “climate resilience” may be defined distinctly to differentiate between the adaptation actions taken in order to achieve the goal of resilience, we believe that for the purposes of providing indicators, climate change adaptation and/or resilient projects and investments may be used interchangeably.

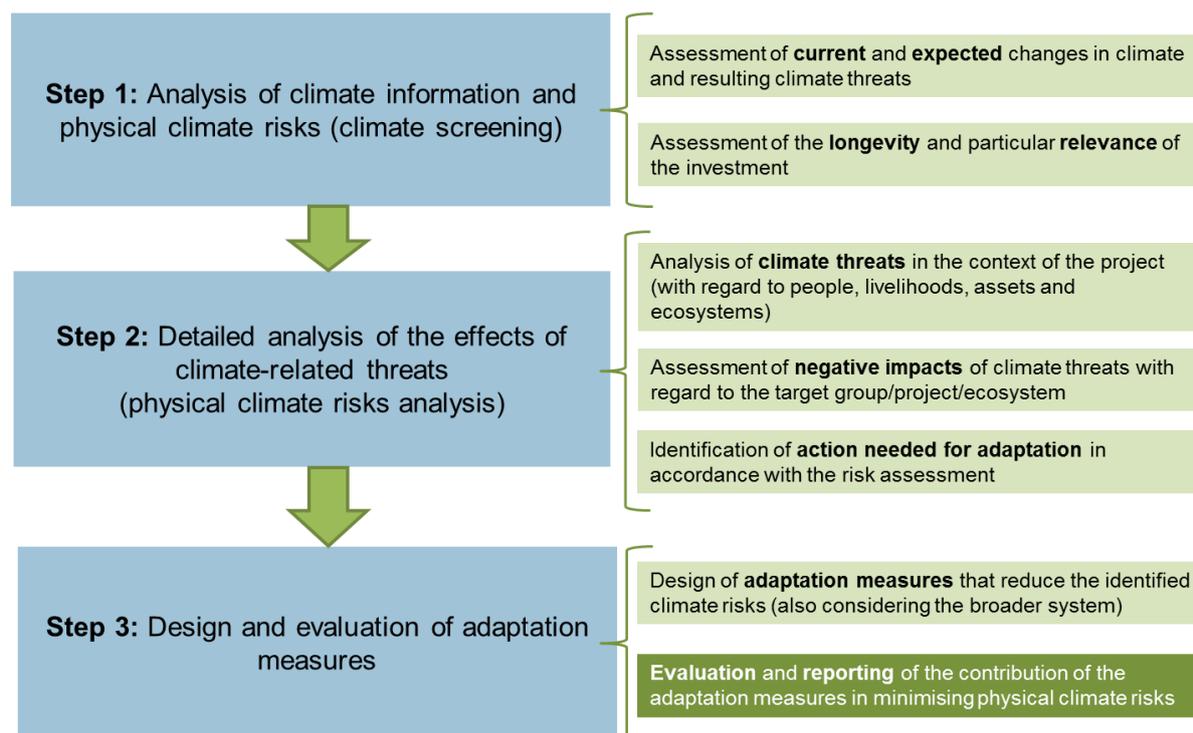
According to the Climate Bond Initiative’s Climate Resilience Principles⁵, there are two types of climate resilience investments: those that are primarily focussed on enhancing the resilience of an asset; and those that principally seek to enhance the resilience of the broader system. There are nevertheless interlinkages between the two, and it is important in evaluating the impact of any climate change adaptation investment that there is no negative impact on the system of which it forms part. A context-specific approach is always required in climate change adaptation⁶, reflecting the importance of the geographic and location specific context in the assessment of the project’s climate vulnerabilities and the identification of appropriate solutions. This highlights the importance of additional disclosures, such as the national, regional and local vulnerabilities and physical climate-related risks.

The following flow chart provides guidance for projects that are primarily focused on enhancing the resilience of an asset:

⁵ <http://www.climatebonds.net/adaptation-and-resilience>

⁶ As set out in the Joint MDB Adaptation Finance Tracking Methodology

Process-based approach to climate change adaptation



Source: KfW

While this document proposes certain quantitative impact reporting metrics, providing qualitative information is of particular relevance for climate change adaptation/resilience projects. This document aims to provide a meaningful context for understanding the baseline situation and the amelioration of the assessed vulnerability as a result of the project. Relevant disclosures may include climate change scenarios, time horizons and processes employed for determining the key weather and climate-related risks and their likely relative probability and severity, as well as all strategies, actions and plans for managing the vulnerabilities.

Where a project is deemed to deliver significant climate resilience benefits to GHG emission intensive assets or operations, issuers should disclose their approach and their assessment of the extent of the relative trade-off between climate mitigation and climate resilience.

Impact reporting on climate resilience investments is typically at an outcome level⁷ on an ex-ante basis measured against the expected situation in a “no action” scenario. Such assets may be most easily categorised relative to the climate-related hazard⁸ that the climate adaptation/resilience project(s) seek(s) to address, withstand and/or ameliorate. Some projects may be deemed to relate to more than one climate hazard, such as the reforestation of coastal land, which may serve to reduce wave and flood damage, as well as reducing erosion, and the expected impacts of such projects may therefore be reported in relation to all relevant climate hazards.

This document builds on the previous work published by the GBP Impact Reporting Working Group, including for impact reporting on sustainable water and wastewater projects, clean transportation, green buildings and biodiversity projects. The indicators proposed here focus only on supplementary indicators associated with climate change adaptation/resilience projects, and issuers are encouraged to report the co-benefits of projects with reference to such other suggested metrics.

⁷ In line with the Climate Resilience Metrics Framework developed by the Multilateral Development Banks and development finance institutions: <https://www.ebrd.com/cs/Satellite?c=Content&cid=1395285114859&pagename=EBRD%2FContent%2FDownloadDocument>

⁸ A classification of climate-related hazards is set out in the EU Sustainable Finance Taxonomy: https://ec.europa.eu/info/publications/sustainable-finance-teg-taxonomy_en

For the purpose of data quality, issuers are encouraged to disclose additional technical reports and/or data verification protocols where supplementary 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.

Examples of Climate-Related Hazards and Adaptation/Resilience Outcomes

Climate Hazard:	Examples:	Adaptation Outcomes
Temperature-Related:	Heatwaves Cold snaps Wildfires Temperature variability Thawing of the permafrost Increasing heat stress	Reduce or avoid damage/disruption
Wind-Related:	Typhoons/hurricanes Dust Storms/sandstorms	Reduce or avoid damage/disruption
Water-Related:	Floods/ heavy precipitation Droughts Glacial flooding Rising sea-levels Increasing water stress Hydrological variability	Reduce or avoid damage/disruption Increase water availability
Land-Related:	Landslides Avalanches Subsidence Soil erosion Soil degradation	Reduce or avoid damage/disruption Increase productivity

Climate-related damage to assets may result in a rise in risk frequency and/or harm to assets/life/livelihoods or in a reduction in the serviceable life of assets.

Climate-related disruption may result in lost revenue or income through the reduction in the amount of time that a system or a component of a system is operable, or due to a lowering of the productivity of the system or asset.

It is also possible to categorise climate-adaptation projects in terms of sectors (e.g. health, infrastructure, agriculture), as another means of reflecting that projects may need to be designed to cope with multiple hazards, and an illustrative guide is provided in Appendix.

Exemplary Indicators

A. Temperature-Related

Indicators:

#1 Reducing or avoiding weather-related damage

- Increase in grid resilience, energy generation, transmission/distribution and storage in MWh
- Reduction in the number of wildfires, and/or in the area damaged by wildfires in km²
- Reduction in emergency and unplanned rail and tarmac replacement in km

#2 Reducing or avoiding weather-related disruption

- Increase in grid resilience, generation and storage in MWh

B. Wind-Related

Indicators:

#3 Reducing or avoiding weather-related damage

- Reduction in repair costs due to storms (to all kinds of infrastructure and assets)

#4 Reducing or avoiding weather-related disruption

- Reduction in the number of customers/employees suffering loss of power / transport services
- Reduction in the number of power lines incapacitated due to storms

C. Water-Related

Indicators:

#5 Reducing or avoiding weather-related damage

- Reduction in flood damage costs
- Reduction in number of operating days lost to floods
- Reduced/avoided water loss (in reservoirs/waterways/natural habitats etc.) in m³
- Reduction in land-loss from inundation and/or coastal erosion in km²

#6 Reducing or avoiding weather-related disruption

- Reduction in number of operating days lost to floods

#7 Increased water availability

- Additional water availability and/or increased water catchment in m³/year
- Reduction in household demand for clean water in m³/year

D. Land-Related

Indicators:

#8 Reducing or avoiding weather-related damage

- Reduction in repair costs and/or operating days lost due to landslides
- Increase in area under wetland management in km²

#9 Reducing or avoiding weather-related disruption

- Reduction in the number of operating days lost to disrupted transport networks or other infrastructure

#10 Increased agricultural productivity

- Reduction in changes in the nutrient and/or pH level for agricultural soils
- Increase in agricultural land using more drought resistant crops in hectares

- Area cultivated by precision agriculture in km²

Other Sustainability Indicators

- Increased number of urban residents with access to thermally safe conditions in buildings/transport systems
- Increased number of households with access to resilient energy systems
- Increased number of people/businesses/acres with secure water supply
- Decrease in climate-related risk insurance premia
- Reduced number of people suffering from flood-related infections
- Reduced number of people evacuated/injured/displaced/economically unproductive due to climate-related hazards
- Reduction in workforce absenteeism due to climate-related health impacts
- Reduced/avoided loss of livestock and/or crops
- Number of kms of road, rail or other infrastructure adapted
- Decrease in the number of days between a disaster and the related response and recovery.

Appendix

A sectoral categorisation of climate adaptation/resilience projects may include, but is not limited to the following examples:

- **Health**
 - Direct effect (drowning from floods, stroke from temperature, etc.) and non-communicable disease
 - Vector-borne
 - Water-borne
 - Malnutrition
 - Labour productivity (especially outdoor)
- **Infrastructure**
 - Power system
 - Repairs (in pecuniary value)
 - Reliability of service (in days with disruptions)
 - Water system
 - Repairs
 - Reliability of service
 - Transport system
 - Repairs
 - Reliability of service
 - Communication system
 - Repairs
 - Reliability of service
 - Flood management
- **Human settlements and buildings**
 - Operation and maintenance (e.g, air conditioning costs)
 - Repairs (e.g., flood damages)
 - Quality of life (e.g., thermal comfort, death risks)
- **Agriculture and forestry and food security**
 - Food production and costs
 - Soil and water conservation
- **Ecosystem and environment**
 - Biodiversity
 - Services (e.g., water filtration, flood control)
- **Social systems**
 - Social protection
 - Financial inclusion
 - Health care coverage
- **Information and decision-making**
 - Data collection
 - Early warning systems
 - Data dissemination and decision support to include future climate risks in decision-making

I. Reporting Templates

Climate Change Adaptation

Note: Recognising that qualitative impact information is especially important in the case of climate change adaptation/resilience projects, exemplary indicators are proposed in chapter IV.8 Adaptation instead of core indicators as in other chapters. Issuers are welcome to fill in the indicators relevant to their quantitative reporting when using below templates.

Illustrative Summary Template for Project-by-Project Report:

Climate change adaptation / resilience projects Temperature-related projects	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Climate change adaptation component	Allocated Amount c/	Project lifetime d/	<Indicator x> e.g. Increase in grid resilience, energy generation, transmission/distribution and storage	<Indicator y> e.g. Reduction in the area damaged by wildfires	<Indicator z> e.g. Reduction in emergency and unplanned rail and tarmac replacement	...	Other Indicators
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	<unit x> in MWh	<unit y> in km ²	<unit z> in km	...	
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. increased number of households with access to resilient energy systems etc.
Climate change adaptation / resilience projects Wind-related projects	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Climate change adaptation component	Allocated Amount c/	Project lifetime d/	<Indicator x> e.g. Reduction in repair costs due to storms	<Indicator y> e.g. Reduction in the number of customers/employees suffering loss of power / transport services	<Indicator z> e.g. Reduction in the number of power lines incapacitated due to storms	...	Other Indicators
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	<unit x> Valorised (\$/€/£ etc)	<unit y>	<unit z>	...	
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. increased number of households with access to resilient energy systems etc.

Climate change adaptation / resilience projects Water-related projects	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Climate change adaptation component	Allocated Amount c/	Project lifetime d/	<Indicator x> e.g. Reduction in flood damage costs	<Indicator y> e.g. Reduced/avoided water loss/household demand or increased water availability/catchment	<Indicator z> e.g. Reduction in land loss from flooding/coastal erosion	...	Other Indicators
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	<unit x> Valorised (\$/€/£ etc)	<unit y> in m ³	<unit z> in km ²	...	
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. increased number of households with access to resilient energy systems etc.
Climate change adaptation / resilience projects Land-related projects	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Climate change adaptation component	Allocated Amount c/	Project lifetime d/	<Indicator x> e.g. Reduction in repair costs due to landslides	<Indicator y> e.g. Increase in area under wetland management/drought resistant crop farming	<Indicator z> e.g. Reduction in changes in the nutrient and/or pH level for agricultural soils	...	Other Indicators
Project name f/	currency	%	% of signed amount	% of signed amount	currency	in years	<unit x> Valorised (\$/€/£ etc)	<unit y> in km ² / hectares	<unit z> in %	...	
e.g. Project 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. increased number of households with access to resilient energy systems etc.

Illustrative Summary Template for Portfolio-based Report:

Climate change adaptation / resilience portfolios Temperature-related portfolios	Signed Amount a/	Share of Total Portfolio Financing b/	Eligibility for green bonds	Climate change adaptation component	Allocated Amount c/	Average portfolio lifetime d/	<Indicator x> e.g. Increase in grid resilience, energy generation, transmission/distribution and storage	<Indicator y> e.g. Reduction in the area damaged by wildfires	<Indicator z> e.g. Reduction in emergency and unplanned rail and tarmac replacement	...	Other Indicators
Portfolio name f/	currency	%	% of signed amount	% of signed amount	currency	in years	<unit x> in MWh	<unit y> in km ²	<unit z> in km	...	
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. increased number of households with access to resilient energy systems etc.
Climate change adaptation / resilience portfolios Wind-related portfolios	Signed Amount a/	Share of Total Portfolio Financing b/	Eligibility for green bonds	Climate change adaptation component	Allocated Amount c/	Average portfolio lifetime d/	<Indicator x> e.g. Reduction in repair costs due to storms (to all kinds of infrastructure and assets)	<Indicator y> e.g. Reduction in the number of customers/employees suffering loss of power / transport services	<Indicator z> e.g. Reduction in the number of power lines incapacitated due to storms	...	Other Indicators
Portfolio name f/	currency	%	% of signed amount	% of signed amount	currency	in years	<unit x> Valorised (\$/€/£ etc)	<unit y>	<unit z>	...	
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. increased number of households with access to resilient energy systems etc.

Climate change adaptation / resilience portfolios Water-related portfolios	Signed Amount a/	Share of Total Portfolio Financing b/	Eligibility for green bonds	Climate change adaptation component	Allocated Amount c/	Average portfolio lifetime d/	<Indicator x> e.g. Reduction in flood damage costs - Valorised (\$/€/£ etc)	<Indicator y> e.g. Reduced/avoided water loss/household demand or increased water availability/catchment	<Indicator z> e.g. Reduction in land loss from flooding/coastal erosion	...	Other Indicators
Portfolio name	currency	%	% of signed amount	% of signed amount	currency	in years	<unit x> Valorised (\$/€/£ etc)	<unit y> in m ³	<unit z> in km ²	...	
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. increased number of households with access to resilient energy systems etc.
Climate change adaptation / resilience portfolios Land-related portfolios	Signed Amount a/	Share of Total Portfolio Financing b/	Eligibility for green bonds	Climate change adaptation component	Allocated Amount c/	Average portfolio lifetime d/	<Indicator x> e.g. Reduction in repair costs due to landslides	<Indicator y> e.g. Increase in area under wetland management/drought resistant crop farming	<Indicator z> e.g. Reduction in changes in the nutrient and/or pH level for agricultural soils	...	Other Indicators
Portfolio name	currency	%	% of signed amount	% of signed amount	currency	in years	<unit x> Valorised (\$/€/£ etc)	<unit y> in km ² / hectares	<unit z> in %	...	
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	e.g. increased number of households with access to resilient energy systems etc.