The Impact Reporting Working Group –

Suggested Impact Reporting Metrics for Energy Efficiency and Renewable Energy Projects

June 2026

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 (GBP). The GBP help enhance the integrity and transparency of environmental finance, including through recommending impact reporting.

This document builds on the earlier Harmonised Framework for Impact Reporting which was first published by a working group of eleven International Financial Institutions (IFIs) in December 2015. 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**. These are two of the ten broad categories of eligibility for Green Projects under the GBP. Since then **additional harmonised frameworks for impact reporting have been released** on sustainable water and wastewater management projects (in June 2017), for sustainable waste management and resource-efficiency projects (in February 2018) for clean transportation projects (in June 2018), for green buildings (in March 2019), and biodiversity projects (in March 2020), climate adaptation projects (in December 2020), circular economy projects (in April 2021) and sustainable management of living natural resources and land use projects (in May 2022).

The GBP recommend the use of both qualitative performance indicators and, where feasible, quantitative performance metrics with the disclosure of the key underlying methodology and/or assumptions used in the quantitative determination. This document provides a list of **core quantitative indicators for projects as well as reference reporting templates on energy efficiency and renewable energy projects** 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 either to individual projects or project portfolios[1].

The indicators proposed herein aim to capture and illustrate the environmental and sustainability benefits of projects relating to:

- **Renewable energy** (including production, transmission, distribution, appliances and products)**;** and
- **Energy efficiency** (such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances and products).

While we understand such projects to also include those that are, for example, focused on waste management, transportation, agribusiness, construction and eco-efficient manufacturing, such

[1] See: Green Impact Reporting Templates – June 2026.

projects may primarily fall under separate GBP project categories of “Pollution prevention and control”, “Clean transportation”, “Environmentally sustainable management of living natural resources and land use”, “Green buildings”, and “Circular economy adapted products, production, technology and processes; and/or certified eco-efficient products” respectively for which impact reporting metrics have been proposed. As this document seeks to provide specific metrics, projects may also be reported using the relevant indicators and templates provided for such project categories by the aforementioned “Harmonised Framework for Impact Reporting”.

Projects that invest in substantially reducing energy demand (“energy efficiency” projects) and those that generate electricity from renewable sources (“renewable energy” projects) are needed at scale and urgently if we are to reach the goals of the Paris Agreement. It is crucial, however, to provide information on the core dimensions of the project, its specific characteristics and the metrics to analyse the results. The importance of the geographic context in the assessment of, for instance, renewable resource levels, the choice of technologies and the current emissions intensity of the electrical grid reinforces the benefit of additional disclosures, such as the national, regional and local context and information on the population served.

While this document proposes certain specific quantitative impact reporting metrics, providing qualitative information, including all strategies, actions and plans for managing the positive and negative impacts, is also of importance. Issuers are advised to consider whether this information is more meaningful if provided at issuer or project level. For energy-efficiency projects, especially in high emitting sectors, it is particularly important in understanding the scale and speed of the transition of the issuer for consistency with the goals of the Paris Agreement. For renewable energy projects, understanding their siting to ensure that negative impacts on biodiversity are minimised appears to be of particular relevance. For all projects, the impact on labour markets is of significant importance, whether focused on the conditions affecting the production of raw materials, the supply chain more generally and/or construction, or whether focused on the livelihoods of those negatively affected by the transition to a low carbon economy. Qualitative information that reflects on how the benefits of a renewable energy project are shared and protect vulnerable populations to ensure a “just transition” will provide a meaningful context for understanding and assessing the baseline situation and the improvement as a result of the project. Investors may also have particular concerns in relation to energy crop production projects, with different sustainability implications being associated with each type of biofuel, and with the general risk of land being diverted from food to fuel production given the persistent growth in global food demand.

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

Core Indicators

A. Energy Efficiency
   #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
   #3) Annual Absolute (gross) GHG emissions from the project in tonnes of CO_2 equivalent /b /c (for corporate issuers – see also the Guidance Note)

B. Renewable Energy
   #1) Annual GHG emissions reduced/avoided in tonnes of CO_2 equivalent /b

#2) Annual renewable energy generation in MWh/GWh (electricity) and GJ/TJ (other energy)
#3) Additional capacity of renewable energy plant(s) constructed or rehabilitated in MW
#4) Annual Absolute (gross) GHG emissions from the project in tonnes of CO_2 equivalent /b /c

Other Indicators, e.g.

- Additional capacity of renewable energy plant(s) to be served by transmission systems (MW)
- Decrease in the carbon intensity factor[2] (tCO_2e/MWh)

Notes:

a/ Energy savings depend on benchmarks, which should be disclosed.
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 standardised 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 organisations have existing, published methodologies for project GHG accounting, there are on-going efforts to harmonise GHG accounting methodologies for relevant sectors among a broad group of IFIs.[3] 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 publicly available and transparent. Green bond impact reporting will increase market-wide transparency on the status quo.

Other Sustainability Indicators

- Number of households served with clean energy
- Number of households served with energy efficiency solutions such as smart meters
- Reduction in air pollutants (SO_2, NOx, PM, VOCs, SF_6) from fossil fuels (in tonnes/annually)
- Energy efficiency components produced or procured (m^2, m^3, tonnes or %)
- Amount of energy recovered from non-recyclable waste (MWh/GWh or GJ/TJ)
- % of embodied energy (and carbon) reduced over lifecycle (“cradle to grave”) vs local benchmark
- On-farm energy audit
- Volume of sustainably sourced goods produced or procured (m^3, tonnes)
- Number of permanent full-time jobs created (in FTE) by the projects
- Number of workers affected by the transition supported to reskill and/or relocate
- Increased human health/productivity valorised amount (currency (mn)/year)
- Contribution of the issuer to the transmission/distribution costs to consumer bills
- Key sensitive animal/plant species affected by the project (Number of species/ specimens)
- Key biodiversity areas affected by the project (m^2)
- Area of land remediated/rehabilitated (m^2/ hectares)

[2] For utilities.

[3] IFI Harmonisation Framework for GHG Accounting_November 2015.docx (worldbank.org).

- Remediation actions to preserve biodiversity (e.g. installation of nesting platforms for overhead lines)
- Water consumption (m^3)
- Variation of the carbon intensity factor of the transmission system in tonnes of CO_2 equivalent per MWh
- Investment valorised amount (currency (mn)) dedicated to reskilling/upskilling previously high-emitting facility workers beyond depolluting or dismantlement minimum legal requirements
- Investment valorised amount (currency (mn)) dedicated to repurposing of the previously high-emitting facilities beyond depolluting or dismantlement minimum legal requirements
- % of jobs conserved in the decommission phase of high-emitting or polluting facility(ies)/activity(ies)

Guidance Note

Definitions:

Avoided emissions are emissions that would have occurred in a counterfactual scenario but did not due to a project or solution and should be reported separately from absolute emissions under both the GHG Protocol[4].and PCAF[5].

Generated (gross) absolute emissions are the actual GHG emissions released by an activity or counterparty (i.e. Scope 1–3 emissions), forming the baseline for financed emissions accounting. The term "generated" emissions, as referenced by PCAF in its guidance, allows to emphasise the distinction with avoided emissions.

Application:

The most relevant and prioritised GHG impact reporting indicator associated with Green Bonds remains "avoided emissions" given the focus of those bonds on projects that are expected to make a positive contribution to decarbonisation. "Generated (gross) absolute emissions" are considered complementary metrics.

While issuers are encouraged to report on all core metrics in the relevant project category, that relate to their projects, "generated (gross) absolute emissions" are deemed a core indicator solely for non-financial corporate bond issuers from carbon intensive sectors, where feasible and when such emissions are deemed material with due regard to the size and nature of the project(s). Reporting on "generated (gross) absolute emissions" is particularly relevant and decision-useful for investors to demonstrate that project level induced emissions are materially lower than those of the issuer overall, thereby demonstrating that such projects support a significant reduction in the issuer's total (firm-wide) emissions over time. This may help remove obstacles to including such corporate bonds in carbon constrained or carbon optimised portfolios, thereby broadening the eligible investor base and helping to unlock additional demand.

Where non-financial corporate bond issuers face practical constraints in measuring and disclosing "generated (gross) absolute emissions", they may, on a best-efforts basis, disclose instead relevant

[4] https://ghgprotocol.org/standards

[5] **Partnership for Carbon Accounting Financials (PCAF)** provides a methodological framework for financial institutions to measure and disclose financed emissions, aligned with and supplementing the GHG Protocol Corporate Value Chain (Scope 3) Standard, specifically Category 15 (Investments). While PCAF is designed for financial institutions and does not govern sustainable bond issuer reporting frameworks, including those of non-financial issuers, it has indirect implications: investors rely on issuer level or use-of-proceeds emissions disclosure to calculate financed emissions in accordance with PCAF methodologies.

emissions intensity metrics applicable to the use of proceeds (e.g. physical or economic intensity), accompanied by a clear explanation of the reasons for not disclosing “generated (gross) absolute emissions”.

Any other issuers may wish to report on “generated (gross) absolute emission”. Issuers and investors alike may, where appropriate, seek to avoid an excessively administrative approach by estimating that generated Scope 1 and 2 emissions are, or are expected to become upon project implementation, negligible or de minimis, reflecting both the limited operational emissions profile of the projects and the defined focus on Scope 1 and 2 emissions only (with Scope 3 emissions outside the assessment boundary), notably for renewable energy projects such as wind farms and solar parks operated by utilities and power producers.

The reporting templates have been updated for illustrative purposes. These disclosures are recommended on a best efforts and voluntary basis, recognising that data availability and methodological maturity may vary across issuers and projects. It is acknowledged that some investors may place varying emphasis on this metric, with some viewing it a secondary indicator, and that certain issuers may face practical constraints in providing it and therefore opt to not report it. The template focuses on Scope 1 and 2 for generated (gross) absolute emissions, which have more consistent and comparable data and form the basis of most portfolio decarbonisation frameworks. It is acknowledged that at the bond level, Scope 3 data remain much harder to produce reliably and is therefore treated as supplementary rather than core to this template.

While generated (gross) absolute emissions are only identified as Core Indicators for Renewable Energy, Energy Efficiency, issuers are encouraged, based on the considerations set out above (e.g. feasibility and relevance), to report generated (gross) absolute emissions metrics for other eligible project categories, for example in certain cases within Pollution Prevention and Control, or Circular Economy activities, especially for carbon intensive corporate sectors.

Issuers are encouraged to build on and reference existing methodologies, such as the GHG Protocol and, where applicable PCAF when reporting GHG metrics such as generated (gross) absolute emissions, avoided emissions or forward-looking emissions impacts.

Where relevant and appropriate, issuers should disclose data sources, system boundaries, counterfactual assumptions, attribution approaches, such as external verification of the data. Avoided emissions and any forward-looking metrics should be disclosed separately from financed (historical) generated (gross) absolute emissions, and issuers should avoid netting effects and double counting of avoided or reduced emissions (e.g. across projects, instruments, or counterparties).