

REPORT REVIEW

Deutsche Bank Impact Reporting Methodology report

Impact Reporting Methodology Deutsche Bank

12 October 2023

VERIFICATION PARAMETERS

Type(s) of reporting	<ul style="list-style-type: none">Impact Reporting Methodology
Relevant standard(s)	<ul style="list-style-type: none">Harmonised Framework for Impact Reporting (HFIR), updated June 2023, as administered by International Capital Market Association (ICMA)Harmonised Framework for Impact Reporting for Social Bonds (HFIRSB), updated June 2023, administered by the International Capital Market Association (ICMA)
Scope of verification	<ul style="list-style-type: none">Deutsche Bank's Impact Reporting Methodology (as of October 5, 2023)Deutsche Bank's Sustainable Instruments Framework (as of October 5, 2023)
Lifecycle	<ul style="list-style-type: none">Pre-issuance verification
Validity	<ul style="list-style-type: none">As long as no changes are undertaken by the Issuer to its Impact Reporting Methodology as of October 5, 2023

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SCOPE OF WORK

Deutsche Bank AG (“the Issuer” or “Deutsche Bank”) commissioned ISS Corporate Solutions (ICS) to provide a Report Review¹ on its Impact Reporting Methodology by assessing:

1. The alignment of the Deutsche Bank’s Impact Reporting Methodology with the commitments set forth in Deutsche Bank Sustainable Instruments Framework (as of October 5, 2023)².
2. Deutsche Bank’s Impact Reporting Methodology - benchmarked against Harmonised Framework for Impact Reporting (HFIR) and Harmonised Framework for Impact Reporting for Social Bonds (HFIRSB), administered by the International Capital Market Association (ICMA) updated as of June 2023.
3. The disclosure of proceeds allocation and soundness of reporting indicators – whether the impact metrics align with best market practices and are relevant to the Sustainable Instruments to be issued.

¹ A limited or reasonable assurance is not provided on the information presented in Deutsche Bank Impact Reporting Methodology. A review of the use of proceeds’ impact reporting methodology is solely conducted against ICMA’s Standards (Harmonised Framework for Impact Reporting for Green Bond and Social Bond) core principles and recommendations where applicable, and the criteria outlined in the underlying Framework. The assessment is solely based on the information provided in the impact reporting methodology. The Issuer [Deutsche Bank] is responsible for the preparation of the report including the application of methods and internal control procedures designed to ensure that the subject matter information is free from material misstatement.

² The Deutsche Bank Sustainable Instruments Framework was assessed as aligned with the GBP and SBP (as of June 2021 with June 2022 Appendix 1) as of October 5, 2023.

ASSESSMENT SUMMARY

REVIEW SECTION	SUMMARY	EVALUATION
<p>Part 1.</p> <p>Alignment with the Issuer's commitments set forth in the Framework</p>	<p>Deutsche Bank confirms to follow the commitments set forth in the Sustainable Instruments Framework.</p>	
<p>Part 2.</p> <p>Alignment with the Harmonised Framework for Impact Reporting (HFIR) And Harmonised Framework for Impact Reporting for Social Bonds (HFIRSB)</p>	<p>The Impact Reporting Methodology is in line with ICMA's HFIR and HFIRSB. The Issuer follows core principles and where applicable key recommendations.</p>	<p>Aligned</p>
<p>Part 3.</p> <p>Disclosure of proceeds allocation and soundness of reporting indicators</p>	<p>The allocation of the bond's proceeds will be disclosed, with a detailed breakdown across different eligible project categories as proposed in the Framework³.</p> <p>The Deutsche Bank's Sustainable Instruments Framework has adopted an appropriate methodology to report the impact generated by providing comprehensive disclosure on data sourcing, calculations methodologies and granularity reflecting best market practices.</p>	<p>Positive</p>

³ The assessment is based on the information provided in the Issuer's report. The Issuer is responsible for the preparation of the report including the application of methods and procedures designed to ensure that the subject matter information is free from material misstatement.

REPORT REVIEW ASSESSMENT

PART I: ALIGNMENT WITH COMMITMENTS SET FORTH IN THE SUSTAINABLE INSTRUMENTS FRAMEWORK⁴

The following table displays the Issuer's commitment in the allocation and impact report against the commitments set forth in Deutsche Bank's Framework, which are based on the core requirements of the Green Bond Principles and Social Bond Principles as well as best market practices.

GBP AND SBP	OPINION
1. Use of Proceeds	Deutsche Bank confirms to follow the Use of Proceeds' description provided by Deutsche Bank's Sustainable Instruments Framework. The report will be in line with the initial commitments set in the Deutsche Bank's Sustainable Instruments Framework.
2. Process for Project Evaluation and Selection	Deutsche Bank confirms to follow the Use of Proceeds' description provided by Deutsche Bank's Sustainable Instruments Framework. The report will be in line with the initial commitments set in the Deutsche Bank's Sustainable Instruments Framework.
3. Management of Proceeds	Deutsche Bank confirms to follow the Use of Proceeds' description provided by Deutsche Bank's Sustainable Instruments Framework. The report will be in line with the initial commitments set in the Deutsche Bank's Sustainable Instruments Framework.
4. Reporting	Deutsche Bank confirms to follow the Use of Proceeds' description provided by Deutsche Bank's Sustainable Instruments Framework. The report will be in line with the initial commitments set in the Deutsche Bank's Sustainable Instruments Framework.
5. Verification	Deutsche Bank commits to engage an independent external auditor or any other verifier to provide a limited assurance on the annual allocation reporting of proceeds from Sustainable Financing Instruments to Eligible Assets

⁴ The Deutsche Bank Sustainable Instruments Framework was assessed as aligned with the GBP and SBP (as of June 2021 with June 2022 Appendix 1) as of October 5, 2023.

PART II: ASSESSMENT AGAINST THE ICMA HARMONISED FRAMEWORK FOR IMPACT REPORTING (HFIR) AND HARMONISED FRAMEWORK FOR IMPACT REPORTING FOR SOCIAL BONDS (HFIRSB)

FOR GREEN BONDS

Reporting is a core component of the GBP and transparency is of particular value in communicating the expected and/or achieved impact of projects in the form of an annual reporting. Green bond Issuers are required to report on both the use of green bond proceeds, as well as the environmental impacts at least on an annual basis until full allocation or maturity of the bond. Harmonised Framework for Impact Reporting (HFIR) has been chosen as benchmark for this analysis as it represents the most widely adopted standard.

The table below evaluates Deutsche Bank Impact Reporting Methodology against ICMA Harmonised Framework for Impact Reporting (HFIR).

CORE PRINCIPLES		
ICMA HFIR	IMPACT REPORTING METHODOLOGY	ASSESSMENT
Reporting on an annual basis	Deutsche Bank commits to report within one year from issuance. The report will be available on Deutsche Bank's website.	✓
Illustrating the environmental impacts or outcomes	<p>The assessment and measurement of the impacts generated by Deutsche Bank Green Bond(s) will cover the following areas:</p> <ol style="list-style-type: none"> 1. Renewable Energy <ul style="list-style-type: none"> ▪ (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e) ▪ Annual renewable energy generation (MWh) ▪ Installed capacity of renewable energy constructed or rehabilitated (MW) 2. Clean Transportation- Electric vehicles (EVs) <ul style="list-style-type: none"> ▪ (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e) ▪ Optional: Number of EVs financed 3. Clean Transportation- Electric vehicles (EVs) <ul style="list-style-type: none"> ▪ (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e) 	✓

- For passenger travel: pkm (i.e. transport of one passenger over one kilometer) and/or passengers
 - i. For cargo transport: ton-km (i.e. the transport of one ton over one kilometre/ ton-km) and/or metric tons
 - ii. Optional: Total in kilometers of new or improved train lines
- 4. Green Building
 - Residential Real Estate (RRE)
 - i. Expected energy savings in MWh per year
 - ii. (Expected) annual GHG emissions avoided (metric tons of CO₂e)
 - Commercial Real Estate (CRE)
 - i. Expected energy savings in kWh per year
 - ii. (Expected) annual GHG emissions avoided (metric tons of CO₂e)
- 5. Energy Efficiency
 - (Expected) annual energy consumption saved through measures in kWh
 - (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e)
- 6. Information and Communications Technology (ICT)
 - (Expected) annual energy consumption saved through measures in kWh
 - (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e)
 - Design average annual PUE

ESG Risk Management	Deutsche Bank commits to evaluate potential environmental and social risks that could arise from potentially eligible projects against the Issuer's Environmental and Social Policy Framework, in line with the commitment set forth in the Sustainable Instruments Framework.	✓
Allocation of proceeds - Transparency on the currency	Deutsche Bank does not report on individual projects since the project data is confidential. The reporting is at portfolio level. The Issuer commits to be transparent on reporting the cash flows in one currency.	✓

RECOMMENDATIONS

ICMA HFIR	IMPACT REPORTING METHODOLOGY	ASSESSMENT
Define and disclose period and process for Project Evaluation and Selection	Deutsche Bank will define and disclose period and process for Project Evaluation and Selection	✓
Disclose total amount of proceeds allocated to eligible disbursements	Deutsche Bank will disclose the total amount of proceeds raised and allocated to eligible disbursement.	✓
Formal internal process for the allocation of proceeds and to report on the allocation of proceeds	Deutsche Bank will follow a transparent process for the allocation of proceeds.	✓
Report at project or portfolio level	Deutsche Bank will report on the total amount of proceeds allocated per eligible project category.	✓
Describe the approach to impact reporting	Deutsche Bank will adjust the impact calculation by the share of financing attributable to the Issuer.	✓
Report the estimated lifetime results and/or project economic life (in years)	Deutsche Bank does not plan to report on the average portfolio lifetime results or economic life (in years).	-

Ex-post verification of specific projects	Deutsche Bank does not plan to sample ex-post verification of specific projects and includes relevant results in the reporting	-
Report on at least a limited number of sector specific core indicators	Deutsche Bank will report on sector specific core indicators, whenever the required input variables or external data sources are available.	✓
If there is no single commonly-used standard, Issuers may follow and disclose their own calculation methodologies	<p>Deutsche Bank discloses the assumptions and impact calculation methodologies for Renewable Energy and Clean Transportation.</p> <p>For Green Building, the Issuer will engage an external consultant for Commercial Real Estate (CRE) to evaluate the impacts, through a comparison with national reference benchmarks, e.g. Building Performance Database of USA, National Energy Code of Canada for Buildings, and Energy Star Portfolio Manager of USA and Canada. For Residential Real Estate (RRE), the Issuer uses real annual energy consumption and CO₂ emissions when EPC data are available, otherwise an estimation approach. The expected GHG emissions avoided of RRE assets will be calculated through a comparison with average national carbon emissions taken from PCAF database of an average RRE portfolio of the same size and regional distribution. The expected energy savings in MWh per year will be calculated based on the expected GHG emission avoided and average conversion factors. For Germany, the conversion factor is based on the Bank's own calculations on the basis of existing internal EPC data.</p> <p>For Energy Efficiency and Information and Communications Technology, the Issuer will disclose the calculation methodology or data source according to the specific type of activities that the proceeds will be allocated to.</p>	✓
Disclosure on the conversion approach (if applicable)	The Issuer will disclose on the conversion approach for the impacts units.	✓
Projects with partial eligibility	For projects with partial eligibility the Bank will only pro-rata count the affordable part into its asset pool internally and also only report impact pro-rata.	✓

When the expected impacts of different project components may not be reported separately, Issuers may use (and disclose) the attribution approach

The impact of Deutsche Bank's projects will be reported separately per category and sub category on an aggregated basis. In case separate impact reporting is not possible, disclosure via attribution approach should remain an option.



OPINION

Deutsche Bank follows Harmonised Framework for Impact Reporting's core principles and key recommendations. The Issuer provides transparency on the level of expected reporting as well as on the frequency, scope and duration, aligned with best practices.

FOR SOCIAL BONDS

Reporting is a core component of the SBP and transparency is of particular value in communicating the expected and/or achieved impact of projects in the form of an annual reporting. Social bond Issuers are required to report on both the use of social bond proceeds, as well as the social impacts at least on an annual basis until full allocation. Harmonized Framework for Impact Reporting for Social Bond (HFIRSB) has been chosen as benchmark for this analysis as it represents the most widely adopted standard.

The table below evaluates Deutsche Bank Impact Reporting Methodology against ICMA Harmonized Framework for Impact Reporting for Social Bond (HFIRSB).

CORE PRINCIPLES		
ICMA HFIRSB	IMPACT REPORTING METHODOLOGY	ASSESSMENT
Reporting on an annual basis	Deutsche Bank commits to report within one year from issuance and all the proceeds have been fully allocated. The report will be available on Deutsche Bank's website.	✓
Formal internal process to track proceeds	Deutsche Bank commits to have project selection and management of proceeds in line with the criteria set forth in the underlying Framework.	✓
Allocation of the proceeds to social project categories	In accordance with the criteria established within the Framework, in compliance with the Social Bond Principles issued by the ICMA, Deutsche Bank commits to allocate the net proceeds of the bond issued under this Framework to new and/or existing eligible assets within the following categories: <ul style="list-style-type: none"> ▪ Affordable Housing ▪ Access to essential services 	✓
Target Population(s) identified	Where applicable the Issuer defined targeted populations for the respective project categories Affordable Housing and Access to Essential Services.	✓
Output, outcome and/or impact of projects at project or portfolio level	The Issuer referred to existing indicator lists and catalogs from the Annex III of the HFIRSB: (i.e Number of beneficiaries, geographical divide of the number of beneficiaries). A detailed analysis of impact indicators is available in Part III of this report.	✓

Illustrating of the social impacts	The assessment and measurement of the impacts generated by Deutsche Bank Social Bonds covered the following areas: <ul style="list-style-type: none"> ▪ Social housing units realized ▪ Senior Care Homes realized ▪ Total number of beneficiaries 	✓
Pro-rated share of the overall impact results of the projects or portfolio of projects	Deutsche Bank commits to report the overall impact results of the project categories in a pro-rated share approach.	✓

RECOMMENDATIONS

ICMA HFIRSB	Impact Reporting Methodology	ASSESSMENT
Disclose the methodology and the assumptions used for the calculation of impact indicators	The Issuer commits to reporting on actual absolute output indicators, qualitative impact indicators and disclose calculation methodology for any estimated impacts.	✓
When the expected impacts of different project components may not be reported separately, Issuers may use (and disclose) the attribution approach	The Issuer commits to reporting the impact of projects separately per category and subcategory on an aggregated basis. In case separate impact reporting is not possible, disclosure via attribution approach should remain an option.	✓
Disclose the methodology used to determine the share of eligible project financing being applied to impact calculation	The Issuer commits to determining the share of eligible project financing being applied to output calculation, meaning the share of the total project cost that is financed by the Issuer resulting in a pro-rated share of overall results of the project categories.	✓
Collaborating with experts if reporting on the estimated lifetime impacts and/or project economic life in years	The Issue does not commit to conduct an estimation on either the lifetime impacts or project economic life.	-
Assumptions and ex-post verification	The Issuer does not commit to samples ex-post verification of specific projects if the indicators reported are based on a number of assumptions.	-

Report Period	The Issuer commits to report impacts for all social assets during the reporting period. Pro-rata approach will be used for added or removed projects during the reporting period.	✓
Disbursement reporting	The proceeds from the social bond issuance will be used to finance new loans or refinance existing loans.	✓
Projects with partial eligibility	For projects with partial eligibility the Bank will only pro-rata count the affordable part into its asset pool internally and also only report impact pro-rata.	✓

OPINION

Deutsche Bank follows Harmonised Framework for Impact Reporting for Social Bond's core principles and key recommendations. The Issuer provides transparency on the level of expected reporting as well as on the frequency, scope and duration, aligned with best practices. Moreover, the Issuer commits to reporting the impacts per category and sub category on an aggregated basis and report the impacts on a pro-rated approach for a share of financing and partial eligibility.

PART III: DISCLOSURE OF PROCEEDS ALLOCATION AND SOUNDNESS OF THE IMPACT REPORTING INDICATORS

Use of Proceeds Allocation

Use of Proceeds allocation reporting is key to put the impacts into perspective with the number of investments allocated to the respective Use of Proceeds' categories.

The Use of Proceeds allocation reporting will occur within one year from the issuance, after full allocation of the proceeds.

Proceeds allocated to eligible projects/assets

The report on proceeds' allocation will be broken down at the project category level. The Issuer has provided details about the type of projects included in the portfolio.

Deutsche Bank commits to provide in the allocation report section, align with best-market practices, information on:

- Confirmation that the use of proceeds of Sustainable Financing Instruments outstanding are in alignment with the eligibility criteria set by the Framework
- The total amount of outstanding Sustainable Financing Instruments in the respective categories (bonds, deposits, etc.) and the share of proceeds used for financing or refinancing purposes
- The amount of net proceeds allocated within each Eligible Category, as well as the balance of net proceeds not yet allocated to Eligible Assets (if any)

Impact Reporting Indicators

The table below presents an independent assessment of the Issuer's report and disclosure on the output, outcome, and/or impact of projects/assets using impact indicators.

ELEMENT	ASSESSMENT
<p>Relevance</p>	<p>The impact indicator chosen by the Issuer for this bond is the following:</p> <ol style="list-style-type: none"> 1. Renewable Energy <ul style="list-style-type: none"> ▪ (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e) ▪ Annual renewable energy generation (MWh) ▪ Installed capacity of renewable energy constructed or rehabilitated (MW) 2. Clean Transportation <ol style="list-style-type: none"> a. Electric vehicles (EVs) <ul style="list-style-type: none"> ▪ (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e) ▪ Optional: Number of EVs financed b. Electric trains <ul style="list-style-type: none"> ▪ (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e) ▪ For passenger travel: pkm (i.e. transport of one passenger over one kilometer) and/or passengers ▪ For cargo transport: ton-km (i.e. the transport of one ton over one kilometre/ ton-km) and/or metric tons ▪ Optional: Total in kilometers of new or improved train lines 3. Green Building <ol style="list-style-type: none"> a. Residential Real Estate (RRE) <ul style="list-style-type: none"> ▪ Expected energy savings in MWh per year ▪ (Expected) annual GHG emissions avoided (metric tons of CO₂e) b. Commercial Real Estate (CRE) <ul style="list-style-type: none"> ▪ Expected energy savings in kWh per year ▪ (Expected) annual GHG emissions avoided (metric tons of CO₂e) 4. Energy Efficiency <ul style="list-style-type: none"> ▪ (Expected) annual energy consumption saved through measures in kWh






	<ul style="list-style-type: none"> ▪ (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e) <p>5. Information and Communications Technology (ICT)</p> <ul style="list-style-type: none"> ▪ (Expected) annual energy consumption saved through measures in kWh ▪ (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e) ▪ Design average annual PUE <p>6. Affordable Housing</p> <ul style="list-style-type: none"> ▪ Number of beneficiaries from affordable housing project ▪ Geographical divide of the number of affordable housing beneficiaries <p>7. Access to essential services</p> <ul style="list-style-type: none"> ▪ Number of beneficiaries from facilities ▪ Geographical divide of the number of senior care home beneficiaries <p>These indicators are quantitative and material to the Use of Proceeds categories financed through this bond and broadly in line with the Suggested Impact Reporting metrics by the ICMA Harmonized Framework for Impact Report for Green and Social Bonds. Some indicators were designed by the Issuer to capture the specificity of their projects. This aligns with best market practices.</p>
<p>Data sourcing and methodologies of quantitative assessment</p>	<p>For its green indicators, the Issuer uses different calculation formulas.</p> <p>Renewable Energy: for calculating the avoided emissions of renewable energy projects, the Bank compares the emissions of the renewable energy project against the expected situation in a “no action” scenario/baseline.</p> <p>Clean Transportation: to estimate the annual emissions avoided by the electric vehicles and electric motorbikes, the indirect emissions are compared to the equivalent direct emissions from internal combustion engine (ICE) vehicles. The calculation for emission savings for electric trains is based on travelled distance (pkm) in electrical trains compared to the same distance travelled by diesel-driven trains. Emission savings calculation of cargo transportation is based on freight distance (ton-km) by electrical trains compared to the same distance covered by diesel-driven trains. The Issuer provided that the data will be collected directly</p>

	<p>from the borrowers or from external benchmark sources, e.g. Enerdata⁵ and Electrical Vehicle Database.</p> <p>Green Buildings: the Issuer will engage an external consultant for Commercial Real Estate (CRE) to evaluate the impacts, through a comparison with national reference benchmarks. For Residential Real Estate (RRE), the Issuer uses real annual energy consumption and CO₂ emissions when EPC data are available, otherwise an estimation approach. Moreover, the impact calculation for CRE assets is planned to be internalized in the medium-term future.</p> <p>Energy Efficiency: the methodology for calculating avoided GHG emissions involves estimating the reduction in energy consumption that results from the measure, and then calculating the corresponding reduction in GHG emissions that would have been emitted if the energy had been generated from a carbon-emitting source (baseline scenario) with the help of suitable emissions factor.</p> <p>Information and Communications Technology (ICT): the methodology for calculating avoided GHG emissions from an ICT asset involves estimating the reduction in energy consumption that results from the asset, and then calculating the corresponding reduction in GHG emissions that would have been emitted if the energy had been generated from a carbon-emitting source (baseline scenario) with the help of suitable emissions factor.</p> <p>For its social impact indicators, the Issuer uses the U.S Department of Housing and Urban Development Section 8 Program criteria as the definition of low-income families. In countries / regions outside the US, accepted country-specific approaches for defining low-income households will be assessed on a case-by-case basis.</p>
<p>Baseline selection</p>	<p>The green impact data will be compared with relevant baselines since GHG emissions from “no action” baselines provide a relevant benchmark against which the green projects can be compared. In this sense, the report is in line with the suggestion of the ICMA Harmonized Framework for Impact Reporting.</p>
<p>Scale and granularity</p>	<p>The impact data, where available, will be presented at the Use of Proceed category level for the indicators.</p>









⁵ <https://www.enerdata.net/>

High-level mapping of the impact indicators with the UN Sustainable Development Goals

Based on the project categories financed and refinanced by the bonds as disclosed in the Issuer’s Impact Reporting Methodology, the impact indicator(s) adopted by Deutsche Bank for its Sustainable Instruments can be mapped to the following SDGs, according to the ICMA “A High -Level Mapping to the Sustainable Development Goals”⁶.

IMPACT INDICATORS	SUSTAINABLE DEVELOPMENT GOALS
<p>Renewable Energy</p> <ul style="list-style-type: none"> (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e) Annual renewable energy generation (MWh) Installed capacity of renewable energy constructed or rehabilitated (MW) 	
<p>Clean Transportation</p> <ul style="list-style-type: none"> (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e) 	
<p>Clean Transportation</p> <ul style="list-style-type: none"> Number of electric vehicles financed 	
<p>Electric Trains</p> <ul style="list-style-type: none"> (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e) 	
<p>Electric Trains</p> <ul style="list-style-type: none"> For passenger travel: pkm (i.e. transport of one passenger over one kilometre) and/or number of passengers (p.a.) For cargo transport: ton-km (i.e. the transport of one ton over one kilometer/ ton-km) and/or tons Total in kilometres of new or improved train lines 	

⁶ [ICMA’s Mapping-SDGs-to-Green-Social-and-Sustainability-Bonds](#)

<p>Green Building (Commercial Real Estate and Residential Real Estate)</p> <ul style="list-style-type: none"> (Expected) annual GHG emissions avoided (metric tons of CO₂e) 	
<p>Green Building (Commercial Real Estate)</p> <ul style="list-style-type: none"> Expected energy savings in kWh per year 	
<p>Green Building (Residential Real Estate)</p> <ul style="list-style-type: none"> Expected energy savings in MWh per year 	
<p>Energy Efficiency</p> <ul style="list-style-type: none"> (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e) 	
<p>Energy Efficiency</p> <ul style="list-style-type: none"> (Expected) annual energy consumption saved through measures in kWh 	
<p>Information and Communications Technology (ICT)</p> <ul style="list-style-type: none"> (Expected) annual GHG emissions reduced/avoided (metric tons of CO₂e) 	
<p>Information and Communications Technology (ICT)</p> <ul style="list-style-type: none"> (Expected) annual energy consumption saved through measures in kWh Design average annual PUE 	
<p>Affordable Housing</p> <ul style="list-style-type: none"> Number of beneficiaries from affordable housing project Geographical divide of the number of affordable housing beneficiaries 	

Access to essential services

- Number of beneficiaries from facilities
- Geographical divide of the number of senior care home beneficiaries



OPINION

The allocation of the bond's proceeds will be disclosed, with a detailed breakdown across different eligible project categories as proposed in the Framework and the Deutsche Bank's Sustainable Instruments Framework has adopted an appropriate methodology to report the impact generated by providing comprehensive disclosure on data sourcing, calculations methodologies and granularity reflecting best market practices. Besides, the impact indicators used align with best market practices using ICMA's recommended metrics, either in the HFIR or the HFIRSB.

DISCLAIMER

1. Validity of the Report Review (“Report Review”): As long as no changes are undertaken by the Issuer to its Impact Reporting Methodology as of October 5, 2023.
2. ISS Corporate Solutions, Inc. (“ICS”), a wholly-owned subsidiary of Institutional Shareholder Services Inc. (“ISS”), sells/distributes Report Reviews which are prepared and issued by ISS ESG, the responsible investment arm of ISS, on the basis of ISS ESG’s proprietary methodology. In doing so, ISS adheres to standardized procedures to ensure consistent quality of responsibility research worldwide. Information on ISS’s methodology is available upon request.
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ANNEX 1: Methodology

Review of the Impact Reporting Methodology

The report review of impact reporting methodology provides the Issuer with an independent opinion on the soundness of commitment on its post-issuance report and of its alignment with recognized market guidelines and it provides investors with independent information regarding the reliability of the report produced. On the basis of the information provided by the Issuer, the alignment of the report is assessed with recognized market guidelines, the metrics chosen by the Issuer and the soundness of process and methodology of reporting. The metrics are analyzed based on specific sets of indicators using proprietary method referring to common market guidelines.

High-level mapping to the SDG

The 17 Sustainable Development Goals (SDGs) were endorsed in September 2015 by the United Nations and provide a benchmark for key opportunities and challenges toward a more sustainable future. Using a proprietary method based on ICMA's Green, Social and Sustainability Bonds: A High-Level Mapping to the Sustainable Development Goals, the extent to the Issuers reporting and project categories contribute to related SDGs is identified.

ANNEX 2: Quality management processes

SCOPE

Deutsche Bank commissioned ICS to compile a Report Review on its Impact Reporting Methodology. The Report Review process includes verifying whether the Methodology aligns with the Harmonized Framework for Impact Reporting and Harmonized Framework for Impact Reporting for Social Bonds, and the respective market standards, i.e. the Green Bond Principles, Social Bond Principles and Sustainability Bond Guidelines and to assess the robustness and completeness of the reporting methodologies.

CRITERIA

Relevant Standards for this Report Review:

- ICMA Green Bond Principles, Social Bond Principles and Sustainability Bond Guidelines
- ICMA Harmonized Framework for Impact Reporting
- ICMA Harmonized Framework for Impact Reporting for Social Bonds
- ICMA A High-Level Mapping to the Sustainable Development Goals

ISSUER'S RESPONSIBILITY

Issuer's responsibility was to provide information and documentation on:

- Impact Reporting Methodology
- Sustainable Instruments Framework

ISS ESG'S VERIFICATION PROCESS

ISS ESG is one of the world's leading independent environmental, social and governance (ESG) research, analysis and rating houses. The company has been actively involved in the sustainable capital markets for over 25 years. Since 2014, ISS ESG has built up a reputation as a highly-reputed thought leader in the green and social bond market and has become one of the first CBI approved verifiers.

This independent Report Review has been conducted by following the ICMA Guidelines for Green, Social, Sustainability and Sustainability-Linked Bonds External Reviews, and its methodology, considering, when relevant, the ISAE 3000 (Revised), Assurance Engagements Other than Audits or Reviews of Historical Financial Information.

The engagement with Deutsche Bank took place from April to October 2023.

ISS' BUSINESS PRACTICES

ISS has conducted this verification in strict compliance with the ISS Code of Ethics, which lays out detailed requirements in integrity, transparency, professional competence and due care, professional behavior and objectivity for the ISS business and team members. It is designed to ensure that the verification is conducted independently and without any conflicts of interest with other parts of the ISS Group.

About this Report Review

ISS ESG is one of the world's leading rating agencies in the field of sustainable investment. The agency analyzes companies and countries regarding their environmental and social performance.

We assess alignment with external principles (e.g. the ICMA Green Bond Principles, Social Bond Principles and Sustainable Bond Guidelines), analyze the sustainability quality of the assets and review the sustainability performance of the Issuer themselves. Following these three steps, we draw up an independent Report Review so that investors are as well informed as possible about the quality of the bond/loan from a sustainability perspective.

Learn more: <https://www.isscorporatesolutions.com/solutions/esg-solutions/green-bond-services/>

Project team

Project lead

Alice Wong
Associate
ESG Consultant

Project support

Vittoria Favalaro
Analyst
ESG Consultant

Project supervision

Marie-Bénédicte Beaudoin
Associate Director
Head of ISS ESG SPO Operations