

Annex to Sustainalytics Impact Report for Bonds and Loans Barclays Green Issuances

July 2023

Introductory Note

In 2023, Barclays engaged Sustainalytics to quantify the environmental benefits of the projects funded with proceeds from a Green Bond issued in November 2020 (the “2020 Green Bond”) under the 2019 Barclays Green Bond Framework¹, and from Green Structured Notes (“GSN”) and European Commercial Paper (“ECP”) issued under the 2021 Barclays Green Issuance Framework² (GSN and ECP together, the “Green Instruments”). As a result, Sustainalytics produced the ‘Impact Report for Bonds and Loans Barclays PLC Green Issuances’ (the “Sustainalytics Impact Report”) for information as at 31 December 2022. Carbon Trust had been provider of this service for the previous year. Whereas the calculations for 2021 information were based on the EPC data release for England and Wales (as detailed below), Sustainalytics utilise their own proprietary methodologies, which includes additional datasets such as data from the Office of National Statistics (ONS) and its own proprietary models. Calculations made by Sustainalytics may therefore not be comparable against previous years’ calculations. Barclays has prepared the below pro forma calculations for information as at 31 December 2022, following the methodology utilised for the previous year. The purpose of this Annex is to provide illustrative year-to-year comparisons against previous years’ calculations, and should not be relied upon as impact reporting pursuant to the 2019 Barclays Green Bond Framework or the 2021 Barclays Green Issuance Framework. For further information regarding Sustainalytics methodologies, please see page 5 of the Sustainalytics Impact Report.



¹ Barclays, “Barclays Green Bond Framework”, (2019), available at: <https://home.barclays/content/dam/home-barclays/documents/investor-relations/fixed-income-investors/20191212-Green-Bond-Framework.pdf>

² Barclays, “Barclays Green Issuance Framework”, (2021) available at <https://home.barclays/content/dam/home-barclays/documents/investor-relations/debtinvestors/creditratings/20211021-Barclays-Green-Issuance-Framework-July-2021.pdf>

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Section A: BPLC Green Bonds

Green Bond Carbon Reporting as of 31st December 2022: Results based on previous methodology for comparison¹

As of 31 December 2022, Barclays PLC had one green bond outstanding, the 2020 Green Bond, with outstanding principal amount totalling £400m.

This section reports the results and methodology for estimating potential avoided carbon emissions versus the national EPC average for the properties included in the 2020 Green Bond portfolio based on the calculation methodology used for reporting in prior years. These figures are presented for illustrative comparison purposes only. Sustainalytics, as the new independent provider from 2023, have utilised their own methodology which is used to calculate the impact metrics, as described in the Sustainalytics Impact Report relating to the year ended 31 December 2022.

All below calculations are based on loan data as of 31st December 2022 and on the most recent EPC data release for England and Wales².

	2020 Green Bond (XS2251641267)
EMA Portfolio assets (mortgage loans for residential properties)	1,846 loans £400.4m nominal value, of which 100% are Green Home Mortgages
(1) Average estimated carbon intensity	14.43 KgCO ₂ /m ² /year
(2) Annual estimated KgCO ₂ avoidance of allocated EMA portfolio versus national EPC average	5,772,141 KgCO ₂ 6,363 US tCO ₂
(3) Estimated carbon emissions avoided per every £1m of proceeds allocated	15.91 US tCO ₂

2020 Green Bond

The average carbon intensity (14.43 KgCO₂/m²/year) of the allocated portfolio of EMAs for the 2020 Green Bond is c.69% lower than the EPC dataset average of 46.79 KgCO₂/m²/year, and c.36% lower than the top 15% of lowest carbon intensive properties at 22.5 KgCO₂/m²/year³

¹ See Appendix 1 for methodology applied in previous years reporting.

² The EPC dataset was updated on 27th April 2023 and includes certificates issued up to and including 31st March 2023.

³ The calculation of top 15% of lowest carbon intensive properties is a point in time assessment. The carbon intensity threshold will be fixed for the term of the issuance.

Section B: BBPLC Green Instruments

During 2022 the Eligible Asset¹ pool was expanded to include 12 projects² (2021: 5) with £379m drawn balances (2021: £95m) as of 31 December 2022.

¹ As defined in the 2021 Barclays Green Issuance Framework

² The Electric Vehicle portfolio is considered as one project.

Appendix 1: BPLC Green Bonds Methodology (applied in previous years' reporting)

1. Comparison of average estimated carbon intensity against a domestic baseline

This first calculation compares the average estimated carbon intensity of the allocated portfolio of EMAs for the 2020 Barclays Green Bond against a comparable domestic baseline. The baseline used in this Annex is the average estimated carbon intensity of all properties in the most recent EPC dataset, which is used as a projection for the national average of carbon intensity for properties in England and Wales¹. We note that, the estimated avoided carbon emissions (versus the national EPC average) are sensitive to the choice of the baseline dataset. For example, the avoided carbon emissions versus the national EPC average may decrease over time as UK housing energy efficiency improves.

The EPC dataset contains duplicate addresses due to single properties having multiple EPC certificates recorded over time. These duplicate entries were not considered in order to mitigate ambiguity regarding which EPC record to associate with the properties. EPC information marked as 'Invalid' on the dataset has also been removed from our internal database, as these contain potentially erroneous values for carbon intensity.

The EPC data release contains EPC records for c.24 million properties in England and Wales issued up to and including 31st March 2023, whilst the total number of domestic properties in England and Wales is much higher. As a result, this report only considers the national average carbon intensity based on EPC data, and subsequent calculations are benchmarked against this average. Due to the granular nature of the underlying portfolio, it is impossible to provide line by line carbon impact and calculations are shown at a portfolio level.

Estimated Carbon Intensity

	EPC Dataset	2020 Green Bond Portfolio
Total KgCO ₂ /m ² /year	1,138,437,749	26,647
Total number of properties	24,436,428.00	1,846
Average KgCO ₂ /m ² /year	46.59	14.43

2. Annual estimated KgCO₂ avoidance of allocated EMA portfolio

The second calculation estimates the annual carbon emission avoidance of the overall portfolio of EMAs. This calculation includes the following inputs:

- Average estimated carbon intensity of allocated EMA portfolio (in KgCO₂/m²)
- Average estimated carbon intensity of EPC dataset (in KgCO₂/m²)
- Total floor area of EMA portfolio properties (in m²)

¹ The appropriate field within the EPC dataset that contains estimated carbon intensity figures for each property is: CO₂ EMISS CURR PER FLOOR AREA (CO₂ emissions per square metre floor area per year in Kg/m²)

The formula for calculating the estimated carbon avoidance using these inputs is:

$$\text{Annual KgCO}_2 = (a - b) * (c)$$

Estimated Carbon Avoidance

2020 Green Bond Portfolio	
a.	14.43
b.	46.59
c.	179,482
Estimated annual avoidance versus national EPC average	5,772,141 KgCO₂ 6,363 US tCO₂

3. Estimated carbon emissions avoided per every £1m of proceeds allocated

The third calculation is an estimation of how many tons of CO₂ have been avoided. This is calculated as follows for each Barclays Green Bond:

£1m of the 2020 Green Bond proceeds allocated

The formula for this calculation is shown below:

$$\text{CO}_2 \text{ avoidance per } \text{£}1\text{m invested} = (a * b) / (c)$$

Where:

- a. £1m
- b. Estimated annual avoidance versus national EPC average
- c. Issuance proceeds

Estimated Carbon Avoidance per £1m proceeds

	2020 Green Bond Portfolio
Estimated annual avoidance versus national EPC average (US tCO ₂)	6,363
Issuance proceeds	£400m
Annual CO ₂ avoidance per £1m invested versus national EPC average (US tCO ₂)	15.91

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