Impact Report for Bonds and Loans

Barclays Green Issuances

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IMPACT REPORTING

Impact Summary

Evaluation Date	October 21, 2025[1]
Issuer Location	London, UK

Sustainalytics has calculated the estimated impact achieved by the 2020 Green Bond issued by Barclays PLC and the Green Instruments issued between 2021 and 2022 by Barclays Bank PLC. As of 31st December 2024, GBP 616 million has been allocated in the categories of energy efficiency, renewable energy and sustainable transportation with one global project and the remaining located in the United Kingdom and Ireland. For a representative year during the bonds' term to maturity, Sustainalytics has calculated 120,859 US tCO_2e of carbon dioxide equivalents in avoided GHG emissions.

£616M
Allocated funds

120,859
Annual emissions avoided (US tCO_2e)

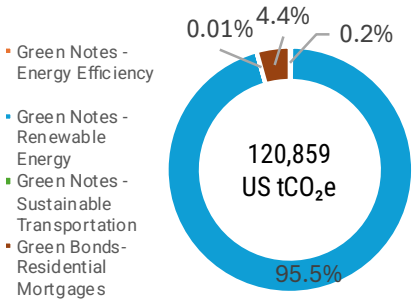
14
Projects

24M
Cars driven for one year

2
Countries

7.2B
Trees, yearly sequestration

Financed Projects by Avoided CO_2e Emissions and Number of Projects by Country



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[1] This document was updated on the 10th of December 2025 with changes to Allocated Amounts and Share of Total Project Financing.

Introduction

In November 2020, Barclays PLC issued a Green Bond (the "2020 Green Bond") under the 2019 Barclays Green Bond Framework[2] to finance or refinance a portfolio of green mortgages for energy-efficient residential buildings. Throughout 2021 and 2024, Barclays Bank PLC also issued Green Structured Notes (collectively referred to as the "Green Instruments") under either the 2021 Barclays Green and Social Notes Framework or the updated 2023 Barclays Green and Social Notes Framework[3,4] (the "Frameworks") aimed at finance or refinance energy efficiency, renewable energy, and sustainable transportation projects. For clarification, "Barclays Green Issuances" herein refers to the 2020 Green Bond and the Green Instruments jointly. Barclays PLC and Barclays Bank PLC are collectively referred to as "Barclays" or the "Bank."

In September 2025, Barclays engaged Sustainalytics to quantify the environmental benefits of the projects financed or refinanced with proceeds from the Barclays Green Issuances[5]. Using established methodologies, Sustainalytics has estimated avoided emissions from Barclays' projects. This report presents the details of our findings, including a description of the methodology used to calculate the impacts. This report will be published on Barclays' website pursuant to the 2019 Barclays Green Bond Framework and 2023 Barclays Green and Social Notes Framework.

Barclays also engaged Sustainalytics to provide an allocation review of the allocation of proceeds and its alignment with the 2019 Barclays Green Bond Framework and the 2023 Barclays Green and Social Notes Framework. The allocation review is published separately.

Scope of Work and Limitations

Barclays has engaged Sustainalytics to calculate the environmental impacts of the projects financed or refinanced with proceeds from the Barclays Green Issuances. For this work, Sustainalytics relied on the data provided by Barclays on the amount allocated and the technical data on the select projects under their portfolio, financed or refinanced. This report's sole purpose is the transparent reporting of the projects' impact created and emissions avoided and does not provide endorsement of projects nor their eligibility.

Sustainalytics' impact reporting is aligned with ICMA's June 2024 Handbook - Harmonised Framework for Impact Reporting and ICMA's September 2024 Harmonised Framework for Impact Reporting for Social Bonds.[6,7] The methodology and assumptions made for the impact calculation are outlined in the methodology chapter.

As part of this engagement, Sustainalytics exchanged information with Barclays' representatives to understand the sustainability impact of its projects. Through these exchanges, Barclays' representatives have confirmed that:

(1) They understand it is the sole responsibility of Barclays to ensure that the information provided is complete, accurate and up to date;

(2) They have provided Sustainalytics with all relevant information;

(3) Any provided material information has been duly disclosed in a timely manner.

Sustainalytics also reviewed relevant public documents and non-public information.

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[2] 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

[3] Barclays Green and Social Notes Framework, (2023) at: https://home.barclays/content/dam/home-barclays/documents/investor-relations/fixed-income-investors/2023/20230918-Barclays-Green-and-Social-Notes-Framework-July-2023.pdf
The Barclays has confirmed that the projects financed under the Barclays Green Issuance Framework (2021) are aligned with the Barclays Green and Social Notes Framework, (2023).

[5] "Barclays Green Issuance Framework", (2021) at: https://home.barclays/content/dam/home-barclays/documents/investor-relations/debtinvestors/creditratings/20211021-Barclays-Green-Issuance-Framework-July-2021.pdf

[6] ICMA , "Handbook - Harmonised Framework for Impact Reporting", 2024, at Handbook-Harmonised-Framework-for-Impact-Reporting-June-2024.pdf (icmagroup.org)

[7] ICMA, "Harmonized Framework for Impact Reporting for Social Bonds", 2024, at https://www.icmagroup.org/assets/documents/Sustainable-finance/2024-updates/ICMA-Handbook-Harmonised-Framework-for-Impact-Reporting-for-Social-Bonds-September-2024-250924.pdf

Impact Findings

For reporting, Sustainalytics follows the ICMA Harmonised Framework for Impact, which synthesizes market expectations and outlines recommendations for impact reporting to create a standardized reporting structure and to enhance the understanding of the impact for all stakeholders including bond investors. [8,9]

Table 1 below provides a summary of the projects[10] for which Sustainalytics has calculated the impacts at the portfolio level. Tables 2-3 provide details for the projects financed or refinanced per use of proceeds category for the proceeds from the respective financial instrument. In the appendices, Appendices 1 to 4 provide impact data at the project level. These metrics correspond to a representative year during the lifetime of the projects and are based on the share of project financing.

Table 1: Summary of Impact – Green Issuances

Allocated Amount	Financed Emissions Avoided		Financed Emissions Avoided/ M GBP	
GBP	$kgCO_2e$/year	US tCO_2e/year	$kgCO_2e$/year/M GBP	US tCO_2e/year/M GBP
615,631,067	109,641,770	120,859	178,096.55	196.32

Table 2: Summary of Impact – 2020 Green Bond

Use of Proceeds	Allocated Amount	Financed Emissions Avoided		Financed Emissions Avoided/ M GBP	
	GBP	$kgCO_2e$/year	US tCO_2e/year	$kgCO_2e$/year/M GBP	US tCO_2e/year/M GBP
Residential Mortgages	400,435,394	4,788,545	5,278	11,958.35	13.18

Table 3: Summary of Impact – Green Instruments

Use of Proceeds	Allocated Amount	Financed Emissions Avoided		Financed Emissions Avoided/ M GBP	
	GBP	$kgCO_2e$/year	US tCO_2e/year	$kgCO_2e$/year/M GBP	US tCO_2e/year/M GBP
Renewable Energy	149,677,610	104,669,874	115,379	699,302.15	770.85
Energy Efficiency	51,310,621	170,226	188	3,317.56	3.66
Sustainable Transportation	14,207,441	13,125	14	923.82	1.02

[8] ICMA , "Handbook - Harmonised Framework for Impact Reporting", 2024, at Handbook-Harmonised-Framework-for-Impact-Reporting-June-2024.pdf (icmagroup.org)
[9] ICMA, "Harmonized Framework for Impact Reporting for Social Bonds", 2023, at Harmonised-framework-for-impact-reporting-for-social-bonds-June-2023-220623.pdf (icmagroup.org)

Methodology

Sustainalytics developed its own methodologies for quantifying GHG avoidance and other metrics, including leveraging publicly available best-in-class methodologies, protocols and frameworks that are currently industry best practice. First, our estimation practices and general principles rely on the GHG Protocol.[11] Our methodologies are based on guidance provided by the IFI Approach to GHG Accounting for Renewable Energy Projects,[12] notably on calculation methodology and global emissions. In addition, we rely on the Partnership for Carbon Accounting Financials' (PCAF) Global Accounting Standard[13] for guidance on estimation where data is not readily available and assumptions must be made. Finally, the UN's Clean Development Mechanism[14] provides guidance and information, serving as the foundation for these and other methodologies, including those implemented in this report.

Renewable Energy

It is assumed that energy generated by the projects crowd out a mix of current and upcoming planned generation capacity, and therefore the associated emissions from those energy sources. The approach taken to derive the greenhouse gas emissions avoidance uses:

a) The emissions of the renewable energy projects, which is often (but not always) zero; and
b) The baseline emissions or emissions occurring in the absence of the project. For electricity generation, these emissions are based on the energy mix used to supply electricity to the local grid.
c) Financed project avoided emissions are calculated by using the share of project financing of the total project emissions avoided from the above calculations.

Data Sources and Assumptions

- For projects included under Renewable Energy, Barclays provided energy generation data (in MWh) where available; otherwise, the project capacity (in MW) was provided.
- For projects where only capacity data was provided, Sustainalytics estimated the annual energy generation based on the technology and location of the projects using historical energy data provided by IRENA.[15] For projects where only energy generation was provided, Sustainalytics estimated the project capacity using the same data.
- The projects consist of a select number of projects and consist of both operational assets and those under construction. The calculated emissions avoided make no distinction between the two, assuming all projects are operational for the representative year of the bond. For projects under construction, the expected energy generation is estimated using the project capacity.
- The baseline emission factors for the countries where projects are located were sourced from IFI.[16] To account for emissions from upstream activities, Sustainalytics applies an additional, indirect emissions factor.[17]
- For zero-carbon technologies such as solar and wind energy, the emissions per unit of generation are assumed to be 0 gCO_2e/kWh.
- The percentage of project share financing varies due to differing credit line usage. The number used reflects the most accurate estimate available during execution.

[11] Greenhouse Gas Protocol, "About Us", at: https://ghgprotocol.org/about-us
[12] IFI, "IFI Approach to GHG Accounting for Renewable Energy Projects", (2015), at: https://documents1.worldbank.org/curated/en/758831468197412195/pdf/101532-WP-P143154-PUBLIC-Box394816B-Joint-IFI-RE-GHG-Accounting-Approach-clean-final-11-30.pdf
[13] PCAF, "About PCAF", at: https://carbonaccountingfinancials.com
[14] CDM, "Methodologies Booklet", at: https://cdm.unfccc.int/methodologies/documentation/index.html
[15] International Renewable Energy Agency (IRENA), "Statistics Time Series", (2023) at: https://www.irena.org/Data/View-data-by-topic/Capacity-and-Generation/Statistics-Time-Series
[16] UNFCCC, "The IFI Dataset of Default Grid Factors", available at: https://unfccc.int/climate-action/sectoral-engagement/ifis-harmonization-of-standards-for-ghg-accounting/ifi-twg-list-of-methodologies
[17] Calculated by Sustainalytics based on: UK Government, Department for Business, Energy & Industrial Strategy, "Government conversion factors for company reporting of greenhouse gas emissions", at: https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting, International Energy Agency, "IEA Country Profiles", at: https://www.iea.org/countries and UNFCCC, "Harmonized IFI Default Grid Factors", at: https://unfccc.int/climate-action/sectoral-engagement/ifis-harmonization-of-standards-for-ghg-accounting/ifi-twg-list-of-methodologies

Energy Efficiency

It is assumed that new buildings consume less energy than a mix of existing buildings and new construction. The avoidance of greenhouse gas emissions is calculated using:

a) The emissions of the green building projects which to the extent available, is based on metered energy consumption. If such information is not available, estimates for the relevant projects are based on the building certificates, standards or country-level averages.
b) The baseline emissions or emissions occurring in the absence of the projects. This figure is based on the estimated energy intensity of comparable buildings or, in the case of refurbishments, the prior emissions of the building.
c) Financed project avoided emissions are calculated by using the share of project financing of the total project emissions avoided from the above calculations

Data Sources and Assumptions

- For the select number of projects included in this report, building data including gross building area, location, emissions intensities and relevant building certificates were provided by Barclays and used as inputs for the calculations. Where relevant, Sustainalytics performed calculations based on the most recently available green building certificates or energy performance certificates for each property.
- Based on location and building characteristics such as type and size, the energy intensity of a baseline building is estimated using a combination of country averages[18] and publicly available statistical models.[19]
- The emissions factors for the baseline properties are based on the average energy mix for buildings in the relevant country. A distinction is made between electricity consumption and other energy consumption.[20]
- The grid emissions factors for the countries in which the projects are located were sourced from IFI.[21] To account for emissions from upstream activities, Sustainalytics applies an additional, indirect emissions factor.[22]
- The percentage of project share financing varies due to differing credit line usage. The number used reflects the most accurate estimate available during execution.

[18] CRREM, "Global Decarbonisation Pathways", at: https://www.crrem.org/pathways/
[19] IFC's EDGE model is used for statistical modelling of buildings.
[20] Calculated by Sustainalytics based on: UK Government, Department for Business, Energy & Industrial Strategy, "Government conversion factors for company reporting of greenhouse gas emissions", at: https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting, International Energy Agency, "IEA World Energy Balances Highlights", at: https://www.iea.org/data-and-statistics/data-product/world-energy-balances and UNFCCC, "Harmonized IFI Default Grid Factors", at: https://unfccc.int/climate-action/sectoral-engagement/ifis-harmonization-of-standards-for-ghg-accounting/ifi-twg-list-of-methodologies
[21] UNFCCC, "IFI TWG – List of methodologies", at: https://unfccc.int/climate-action/sectoral-engagement/ifis-harmonization-of-standards-for-ghg-accounting/ifi-twg-list-of-methodologies
[22] Calculated by Sustainalytics based on: UK Government, Department for Business, Energy & Industrial Strategy, "Government conversion factors for company reporting of greenhouse gas emissions", at: https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting, International Energy Agency, "IEA Country Profiles", at: https://www.iea.org/countries and UNFCCC, "Harmonized IFI Default Grid Factors", at: https://unfccc.int/climate-action/sectoral-engagement/ifis-harmonization-of-standards-for-ghg-accounting/ifi-twg-list-of-methodologies

Sustainable Transportation

Sustainable transportation is assumed to displace a mix of existing and future transportation along the same travel distance. The GHG emissions avoided are calculated using:

a) The emissions of the sustainable transportation projects based on the best available data from Barclays. To the extent available, calculations are based on fuel consumption or passenger-kilometre data. In the absence of such information, estimates are made based on mode of transportation, fuel type and average passengers per vehicle.
b) The baseline emissions, which are the emissions associated with a basket of vehicles or modes of transport being replaced currently and in the future lifetime of the project.
c) Financed project-avoided emissions are calculated by using the share of project financing of the total project emissions avoided from the above calculations.

Data Sources and Assumptions

- For projects included under sustainable transportation, Barclays provided data on the amounts allocated to this category. Sustainalytics estimated the impacts of the vehicles financed based on the costs of the vehicles and the amounts allocated.
- In instances where passenger-kilometres or tonne-kilometres travelled data were missing, Sustainalytics estimated this information based on the average distance travelled per vehicle.
- Project and baseline level emissions associated with electricity consumption were calculated using a national grid emission factor sourced from IFI.[23] Sustainalytics applies an additional, indirect emissions factor to account for emissions from upstream activities, such as electricity transmission losses and the extraction and refining of primary fuels.[24]
- Project and baseline level emissions associated with fuels other than electricity, namely different types of fuels, was sourced from DEFRA[25]
- The share of modes of transportation for each country was sourced from EUROSTAT[26] and the Carbon Disclosure Project.[27]
- For projects with limited client data availability, the energy savings per invested amount from projects with available data was used to estimate the emissions avoided.
- The percentage of project share financing varies due to differing credit line usage. The number used reflects the most accurate estimate available during execution.

[23] UNFCCC, "Harmonized Grid Emission Factor Dataset", at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Funfccc.int%2Fsites%2Fdefault%2Ffiles%2Fresource%2FHarmonized_IFI_Default_Grid_Factors_2021_v3.2_0.xlsx&wdOrigin=BROWSELINK
[24] UK Government, "GHG Conversion Factors 2023 Full File Update", at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fassets.publishing.service.gov.uk%2Fgovernment%2Fuploads%2Fsystem%2Fuploads%2Fattachment_data%2Ffile%2F1166237%2Fghg-conversion-factors-2023-full-file-update.xlsx&wdOrigin=BROWSELINK
[25] UK Government, "GHG Conversion Factors 2023 Full File Update", at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fassets.publishing.service.gov.uk%2Fgovernment%2Fuploads%2Fsystem%2Fuploads%2Fattachment_data%2Ffile%2F1166237%2Fghg-conversion-factors-2023-full-file-update.xlsx&wdOrigin=BROWSELINK
[26] Eurostat, Database Transport, at: https://ec.europa.eu/eurostat/data/database
[27] CDP, "Cities, States and Regions Open Data Portal", at: https://data.cdp.net/

Appendix 1: 2020 Green Bond – Project Level Impact of Energy Efficiency for Residential Mortgages by Building Type

Building Type	Number of Loans	Gross Building Area	Allocated Amount	Share of Total Project Financing	Average Energy Intensity	Average Energy Reduction	Financed Annual Direct Emissions[28]	Financed Annual Indirect Emissions[29]	Financed Annual Emissions Avoided		Financed Annual Emissions Avoided / M GBP	
		m^2	GBP	%	kWh/m^2	%	$kgCO_2e$/year	$kgCO_2e$/year	$kgCO_2e$/year	US tCO_2e/year	$kgCO_2e$/year/M GBP	US tCO_2e/year/M GBP
Bungalow	6	439	547,772	100	60	67	5,371	1,092	11,794	13	21,531.69	23.73
Detached	726	84,885	174,822,807	100	48	67	802,343	163,103	1,954,711	2,155	11,181.10	12.33
Maisonette	179	11,769	32,723,809	100	50	75	114,111	23,197	432,530	477	13,217.58	14.57
Semi-detached	752	67,342	145,770,363	100	48	70	634,901	129,065	1,804,680	1,989	12,380.30	13.65
Terrace	246	21,702	46,570,644	100	48	70	205,823	41,840	584,829	645	12,557.89	13.84

[28] Direct Emissions are the emissions from the energy consumed directly on the premises.
[29] Indirect Emissions are the emissions resulting from the extraction, refining and transportation of primary fuels, including transmission and distribution losses, before their use in the generation of electricity.

Appendix 2: Green Notes – Impacts of Renewable Energy Projects

Project Name	Country	Technology	Allocated Amount	Share of Total Project Financing	Project Generation	Financed Generation	Project Capacity	Financed Capacity	Financed Emissions Avoided		Financed Emissions Avoided/M GBP	
			GBP	%	MWh	MWh	MW	MW	$kgCO_2e$/year	US tCO_2e/year	$kgCO_2e$/year/M GBP	US tCO_2e/year/M GBP
Project 1	United Kingdom	Offshore wind energy	27,106,986	0.78	3,776,156	29,640	1,200	9.42	20,678,793	22,794	762,858.44	840.91
Project 2	United Kingdom	Offshore wind energy	25,203,831	0.74	3,776,156	28,040	1,200	8.91	19,562,128	21,564	776,156.90	855.57
Project 3	United Kingdom	Offshore wind energy	11,979,023	0.28	3,776,156	10,657	1,200	3.39	7,435,211	8,196	620,685.92	684.19
Project 4	United Kingdom	Offshore wind energy	24,524,150	0.41	3,587,348	14,585	1,140	4.63	10,175,556	11,217	414,919.82	457.37
Project 5	United Kingdom	Offshore wind energy	19,294,394	0.67	1,409,765	9,437	448	3.00	6,583,563	7,257	341,216.35	376.13
Project 6	United Kingdom	Offshore wind energy	29,224,448	0.85	2,706,245	23,015	860	7.31	16,056,327	17,699	549,414.21	605.63
Project 7	United Kingdom	Transmission cables and infrastructure[30]	12,344,779	1.54	2,246,813	34,657	714	11.01	24,178,298	26,652	1,958,584.89	2,158.97

Appendix 3: Green Notes – Impacts of Energy Efficiency in Residential Buildings

Project Name	Building Type	Country	Gross Building Area	Certification	Allocated Amount	Share of Total Project Financing	Energy Intensity	Energy Reduction	Financed Direct Emissions	Financed Indirect Emissions	Financed Emissions Avoided		Financed Emissions Avoided/M GBP	
			m^2		GBP	%	kWh/m^2/year	%	$kgCO_2e$/year	$kgCO_2e$/year	$kgCO_2e$/year	US tCO_2e/year	$kgCO_2e$/year/M GBP	US tCO_2e/year/M GBP
Building A	Residential multi-family	United Kingdom	29,319	EPC B	18,525,037	0.96	49	70	2,680.62	544.93	7,354.15	8.11	396.98	0.44

[30] For these projects, avoided emissions are not the direct result of the project, but considered enable by the project

Building B	Residential multi-family	United Kingdom	13,638	EPC B	18,993,845	25.94	49	71	33,570.80	6,824.39	101,289.21	111.65	5,332.74	5.88
Building C	Residential multi-family	United Kingdom	12,440	EPC B	7,410,015	3.28	49	73	3,875.85	787.90	12,624.87	13.92	1,703.76	1.88
Building D	Residential multi-family	Ireland	9,328	BREEAM Very Good	4,628,216	37.05	142	15	113,994.05	22,607.11	24,106.09	26.57	5,208.51	5.74
Building E	Residential multi-family	United Kingdom	5,121	EPC B	1,753,508	16.30	49	72	7,923.56	1,610.73	24,851.75	27.39	14,172.59	15.62

Appendix 4: Green Notes – Impacts of Sustainable Transportation by Project

Project Name	Location	Technology	Allocated Amount	Share of Total Project Financing	Financed Passenger-kilometres Travelled	Financed Direct Emissions	Financed Indirect Emissions	Financed Total Emissions	Financed Direct Emissions Avoided	Financed Indirect Emissions Avoided	Financed Total Emissions Avoided		Financed Emissions Avoided/M GBP	
			GBP	%	Passenger-km/year	$kgCO_2e$/ year	$kgCO_2e$/ year	$kgCO_2e$/ year	$kgCO_2e$/ year	$kgCO_2e$/ year	$kgCO_2e$/ year	US tCO_2e /year	$kgCO_2e$/ year / M GBP	US tCO_2e/ year / M GBP
Project A	Global	Electric Vehicles	14,207,441	3.71	168,840	8,442.00	1,076.97	9,519	9,824	3,301	13,125.18	14.47	923.82	1.02

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