

Second-Party Opinion

Barclays Green and Social Notes Framework



Evaluation Summary

Sustainalytics is of the opinion that the Barclays Green and Social Notes Framework¹ is credible and impactful and aligns with the Sustainability Bond Guidelines 2021, Green Bond Principles 2021 and Social Bond Principles 2021. This assessment is based on the following:



USE OF PROCEEDS The eligible categories for the use of proceeds – Energy Efficiency; Renewable Energy; Sustainable Transport; Sustainable Food, Agriculture, Forestry, Aquaculture and Fisheries; Resource Efficiency and Pollution Control; Sustainable Water; and Affordable Housing – are aligned with those recognized by the Green Bond Principles and Social Bond Principles. Barclays Bank PLC and its subsidiaries will only finance eligible green activities that comply with the sector criteria of the Climate Bonds Standard (CBI). Sustainalytics considers that investments in the eligible categories will lead to positive environmental or social impacts and advance the UN Sustainable Development Goals, specifically SDGs 1, 2, 3, 6, 7, 9, 10, 11, 12, 13, 14 and 15.



PROJECT EVALUATION AND SELECTION Barclays Bank PLC and its subsidiaries' ESG governance forums will evaluate, select, monitor and approve the eligible assets. Barclays Bank PLC and its subsidiaries' social and environmental impact assessment processes will be applicable to all project selection decisions. They will use separate registers to track eligible social assets and eligible green assets. Sustainalytics considers the project selection process to be in line with market practice.



MANAGEMENT OF PROCEEDS Barclays Bank PLC and its subsidiaries' treasury or portfolio management departments will manage, track and allocate the proceeds to eligible assets. At the time of issuance, Barclays Bank PLC and its subsidiaries will allocate the net proceeds from the notes to refinance eligible assets. Barclays Bank PLC and its subsidiaries will update eligible asset balances monthly and repay maturing facilities or remove facilities that turn ineligible from the portfolio. Pending allocation, Barclays Bank PLC and its subsidiaries will invest unallocated proceeds in cash and short-term liquid investments. This is in line with market practice.



REPORTING Barclays Bank PLC and its subsidiaries commit to reporting on the allocation of proceeds on its website on an annual basis as long as the notes are outstanding. Additionally, Barclays Bank PLC and its subsidiaries commit to reporting on relevant impact metrics. Sustainalytics views the commitment to allocation and impact reporting to be aligned with market practice.

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Issuer Location London, England

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¹ Sustainalytics notes that Barclays Bank PLC and its subsidiaries have committed to ensuring that all expenditures made under green categories in the Framework will comply with the applicable sector criteria of the Climate Bonds Standard (CBI). As the Framework contains criteria for activities for which CBI has not yet developed criteria, Barclays Bank PLC and its subsidiaries will not finance such activities until applicable criteria have been developed by CBI. This SPO contains Sustainalytics' opinion only on criteria for projects and activities within the Framework for which CBI has developed criteria.

Introduction

Barclays Bank PLC and its subsidiaries (“Barclays” or the “Bank”)² are part of Barclays’ Group, which provide banking services to individuals and institutions globally. Barclays’ Group serves individuals through its retail banking services while targeting institutions through its corporate and investment banking services. Barclays’ Group has its headquarters in London, England, and has a workforce of approximately 82,900 employees across the globe.³

Barclays has developed the Barclays Green and Social Notes Framework (the “Framework”), under which it intends to issue bonds, covered bonds, structured notes, fixed-term deposits, commercial papers and other debt instruments through the Barclays Green and Social Notes programme to finance or refinance, in whole or in part, existing or future projects that are expected to lead to positive environmental outcomes globally and social advancements in the UK. Sustainalytics notes that it is market practice to define all types of instruments the issuer intends to issue under the Framework and encourages Barclays to define the same in their Framework. Furthermore, Sustainalytics highlights that Barclays does not intend to finance all activities listed in the Framework and that, with respect to green activities, it will restrict financing under the Barclays Green and Social Notes programme to those that are aligned with the criteria set by the Climate Bond Initiative (CBI) for the environmental categories.

The Framework defines eligibility criteria in the following six green categories:

1. Energy Efficiency
2. Renewable Energy
3. Sustainable Transport
4. Sustainable Food, Agriculture, Forestry, Aquaculture and Fisheries
5. Resource Efficiency and Pollution Control
6. Sustainable Water

The Framework defines eligibility criteria in the following one social category:

1. Affordable Housing

Barclays engaged Sustainalytics to review the Barclays Green and Social Notes Framework, dated January 2023, and provide a Second-Party Opinion on the Framework’s environmental and social credentials and its alignment with the Sustainability Bond Guidelines 2021 (SBG), Green Bond Principles 2021 (GBP) and Social Bond Principles 2021 (SBP).⁴ Barclays will publish the Framework in a separate document.⁵

Scope of work and limitations of Sustainalytics’ Second-Party Opinion

Sustainalytics’ Second-Party Opinion reflects Sustainalytics’ independent⁶ opinion on the alignment of the reviewed activities/project categories that Barclays will finance with current market standards and the extent to which the eligible project categories are credible and impactful.

As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The project categories’ alignment with the Sustainability Bond Guidelines 2021, Green Bond Principles 2021, and Social Bond Principles 2021, as administered by ICMA;
- The credibility and anticipated positive impacts of the use of proceeds; and
- The alignment of the issuer’s sustainability strategy and performance and sustainability risk management in relation to the use of proceeds.

For the use of proceeds assessment, Sustainalytics relied on its internal taxonomy, version 1.12, which is informed by market practice and Sustainalytics’ expertise as an ESG research provider.

² Barclays Bank PLC and its subsidiaries exclude Barclays’ Group retail business.

³ Barclays, “Barclays PLC Annual Report 2021”, at: <https://home.barclays/investor-relations/reports-and-events/annual-reports/>

⁴ The Sustainability Bond Guidelines, Green Bond Principles and Social Bond Principles are administered by the International Capital Market Association and are available at <https://www.icmagroup.org/green-social-and-sustainability-bonds/sustainability-bond-guidelines-sbg/>

⁵ The Barclays Green and Social Notes Framework is available on Barclays’s website at: <https://home.barclays/investor-relations/fixed-income-investors/funding-and-liquidity/green-and-social-bonds/>

⁶ When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics’ hallmarks is integrity, another is transparency.

As part of this engagement, Sustainalytics held conversations with various members of Barclays' management team to understand the sustainability impact of its business processes and planned use of proceeds, as well as management of proceeds and reporting aspects of the Framework. 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) that they have provided Sustainalytics with all relevant information; and (3) that any provided material information has been duly disclosed in a timely manner. Sustainalytics also reviewed relevant public documents and non-public information.

This document contains Sustainalytics' opinion of the Framework and should be read in conjunction with that Framework.

Any update of the present Second-Party Opinion will be conducted according to the agreed engagement conditions between Sustainalytics and Barclays.

Sustainalytics' Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant market standards. Furthermore, Sustainalytics' Second-Party Opinion addresses the anticipated impacts of eligible projects expected to be financed with bond proceeds but does not measure the actual impact. The measurement and reporting of the impact achieved through projects financed under the Framework is the responsibility of the Framework owner. Upon 24 (twenty-four) months from the evaluation date, Barclays is encouraged to update the Framework, if necessary, and seek an update to the Second-Party Opinion to ensure ongoing alignment of the Framework with market standards and expectations.

In addition, the Second-Party Opinion opines on the potential allocation of proceeds but does not guarantee the realized allocation of the bond proceeds towards eligible activities.

No information provided by Sustainalytics under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument, either in favour or against, the truthfulness, reliability or completeness of any facts or statements and related surrounding circumstances that Barclays has made available to Sustainalytics for the purpose of this Second-Party Opinion.

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the Barclays Green and Social Notes Framework

Sustainalytics is of the opinion that the Barclays Green and Social Notes Framework is credible, impactful and aligns with the four core components of the GBP and SBP. Sustainalytics highlights the following project categories and activities to be financed under the Barclays Green and Social Notes Framework:

- Use of Proceeds:
 - The eligible categories – Energy Efficiency; Renewable Energy; Sustainable Transport; Sustainable Food, Agriculture, Forestry, Aquaculture and Fisheries; Resource Efficiency and Pollution Control; Sustainable Water; and Affordable Housing – are aligned with those recognized by the GBP and SBP. Sustainalytics expects the eligible projects to deliver positive environmental impact globally and social benefits for targeted populations in the UK.
 - The Framework has defined a look-back period of three years for the refinancing of opex, which is in line with market practice.
 - Sustainalytics notes that Barclays has committed to ensuring that all expenditures made under green categories in the Framework will comply with the applicable sector criteria of the Climate Bonds Standard (CBI). As the Framework contains criteria for activities for which CBI has not yet developed criteria, Barclays will not finance such activities until applicable criteria have been developed by CBI. This SPO contains Sustainalytics' opinion only on criteria for projects and activities within the Framework for which CBI has developed criteria. Sustainalytics views adherence to CBI standards as a robust practice that will facilitate alignment with a 1.5°C global warming scenario,⁷ consistent with the commitments set out in the Paris Agreement.
 - Under the Energy Efficiency category, the Bank may finance or refinance investments across various areas, such as commercial and residential buildings, agricultural processes,

⁷ CBI, "Climate Bonds Taxonomy", (2021), at: https://www.climatebonds.net/files/files/Taxonomy/CBI_Taxonomy_Tables-08A%20%281%29.pdf

transmission and distribution systems, industrial processes and supply chains and energy-efficiency technologies.

- Under the commercial and residential buildings sub-category, the Bank may finance or refinance the following activities in the UK: i) the development and construction of commercial and residential buildings with an energy performance certificate (EPC) rating of A or B; or ii) the development, acquisition, retrofit or refurbishment of new or existing buildings that achieve a rating of LEED Gold⁸ or above, BREEAM Excellent⁹ or above, or other equivalent internationally recognized green building certification schemes that comply with the threshold set by the CBI or otherwise evidenced to be performing in the top 15% of buildings in the relevant market; or iii) retrofitting of existing buildings to achieve a minimum 30% energy reduction over the pre-retrofit stage or place among the top 15% of buildings in the relevant market in terms of energy efficiency after retrofits. Sustainalytics views the certification schemes and levels specified under the Framework to be credible and the energy efficiency threshold to be indicative of positive environmental impact. Sustainalytics notes that it is market expectation to specify all eligible schemes and certifications and encourages Barclays to report on any specific schemes and certifications it intends to use.
- Activities intended to achieve the targeted energy efficiency for commercial and residential buildings include installing low-energy lights, thermal insulation and energy-efficient external doors. The Bank will also finance energy efficiency improvements to heating systems in accordance with CBI criteria, including the installation of electric air-source heat pumps, electric ground-source heat pumps, micro combined heat and power (micro-CHP) and heating controls, such as thermostats and timers.¹⁰ Other expenses under this sub-category include the replacement of old pumps with efficient electric circulating pumps and the installation and replacement of heating, ventilation and air conditioning (HVAC) and domestic hot water systems with more-efficient systems. Barclays has confirmed to Sustainalytics that micro-CHPs would be limited to those powered by concentrated solar power (CSP) and solar thermal or biomass waste¹¹ or geothermal energy and bioenergy with emissions below 100 gCO₂e/kWh. Sustainalytics notes that heat pumps offer an energy-efficient heat transfer alternative to conventional systems, but encourages the Bank to exclude heat pumps with high global warming potential (GWP) refrigerants. Sustainalytics also encourages Barclays to promote robust refrigerant leak control, detection and monitoring, and to ensure the recovery, reclamation, recycling and destruction of refrigerants at end of life.
- The category also includes investments in on-site renewable energy generation projects aimed at providing clean energy to commercial and residential buildings. These include heating water using solar energy and generating solar photovoltaic (PV) energy. Barclays has informed Sustainalytics that financing will be restricted to CSP and solar thermal plants where at least 85% of the electricity is generated from solar energy sources. Sustainalytics considers this aligned with market practice.
- Under agricultural processes, Barclays may finance or refinance energy-efficiency improvements of machinery and equipment, as well as switching to low-carbon fuel alternatives, such as bio-based fuels¹² or electricity for irrigation and other agriculture processes. Barclays will exclude operations identified as being linked to deforestation or operations in countries with a high deforestation risk from financing under the Framework. Further, the Bank will exclude livestock management projects for industrial-scale meat processors or producers from financing under the Framework.

⁸ LEED: <https://www.usgbc.org/leed>

⁹ BREEAM: <https://bregroup.com/products/breeam/>

¹⁰ Climate Bonds Initiative, "Buildings Criteria", (2020), at:

https://www.climatebonds.net/files/files/standards/Buildings/Low%20Carbon%20Building%20Criteria_V_1_1_July2020.pdf

¹¹ Barclays confirmed that for biofuel production, it uses sustainable non-food crops, which includes but is not limited to crops certified to the Roundtable on Sustainable Biomaterials (RSB) or ISCC Plus; soy certified to the Round Table on Responsible Soy (RTRS); sugarcane certified to Bonsucro; wood certified to the Forest Stewardship Council (FSC) or the Programme for the Endorsement of Forest Certification (PEFC).

¹² Barclays confirmed that for biofuel production, it uses sustainable non-food crops, which includes but is not limited to crops certified to the Roundtable on Sustainable Biomaterials (RSB) or ISCC Plus; soy certified to the Round Table on Responsible Soy (RTRS); sugarcane certified to Bonsucro; wood certified to the Forest Stewardship Council (FSC) or the Programme for the Endorsement of Forest Certification (PEFC).

Sustainalytics considers the activities under this category to be impactful in improving agricultural processes' energy efficiency.

- Under the transmission and distribution systems sub-category, the Bank will finance the development, manufacture and installation of technologies, including smart grid components, smart meters, monitoring and control automation devices, and communications and sensor technologies, such as wide area monitoring systems aimed at enabling energy-efficient transmission and distribution. Barclays has informed Sustainalytics that the financing in this category will comply with the CBI criteria¹³, which requires that financed projects meet the following criteria: i) relate to infrastructure dedicated to creating a direct connection, or expanding an existing direct connection between a power production plant that is less CO₂ intensive than 100 gCO₂e/kWh, ii) be located in a system that has an average system grid emissions factor below 100 gCO₂e/kWh measured on a product carbon footprint (PCF) basis over a rolling five-year average period (or more than 67% of newly connected generation capacity at the same emissions factor limit); iii) meets the requirements of the CBI's adaptation and resilience checklist.¹⁴
- Barclays will exclude transmission lines directly connected or dedicated to fossil fuel power from financing under the Framework.
- Under this sub-category, the Bank may finance energy-efficiency improvements in biofuel infrastructure, including the refining and transportation of biofuel. The Bank has confirmed to Sustainalytics that it will restrict investments under the Framework to biofuel produced from sustainably sourced feedstock and with 65%¹⁵ or lower life cycle emissions compared to a fossil fuel baseline¹⁶ or a life cycle GHG emissions intensity below 100 gCO₂e/kWh. The Framework excludes biofuel blending facilities from the purview of investments.
- Barclays may finance or refinance energy-efficiency improvements of industrial processes and supply chains, upgrades and improvements in industrial and manufacturing processes, including technologies, equipment and software designed specifically to enable improvements in energy efficiency, such as demand management technologies. Barclays commits to reporting on energy efficiency gains as part of its impact reporting. Barclays will exclude projects related to fossil fuel production and distribution or inherently carbon-intensive sectors, such as steel, aluminium and cement production, and projects related to waste-heat recovery from fossil fuels. Sustainalytics considers these activities to be aligned with market practice.
- The Bank also may finance or refinance the development, production and installation of energy-efficiency technologies and products, such as efficient appliances and LED lighting. The Framework excludes technologies and products designed for inherently carbon-intensive processes, primarily driven or powered by fossil fuels. Sustainalytics considers this to be aligned with market practice.
- Under the Renewable Energy category, the Bank may finance or refinance the development of renewable energy projects according to the following eligibility criteria:
 - On-shore and off-shore wind energy generation.
 - Solar PV technology projects and CSP plants for which more than 85% of the electricity generated is derived from solar energy.
 - Geothermal projects with a direct emission intensity below 100 gCO₂e/kWh.

¹³ Climate Bonds Initiative, "Electrical Grids and Storage Criteria: The Electrical Grids and Storage Eligibility Criteria of the Climate Bonds Standard & Certification Scheme", at:

https://www.climatebonds.net/files/files/Grids%20Criteria_March%202022.pdf

¹⁴ Climate Bonds Initiative, "Electrical Grids and Storage Criteria", at: https://www.climatebonds.net/files/files/CBI-Grids_Storage_Criteria-02B.pdf

¹⁵ Pre-2021 installations with a 60% life cycle emissions reduction below the baseline and pre-2015 installations with a 50% life cycle emissions reduction below the baseline.

¹⁶ Fossil fuel baselines for biofuel production facilities include: i) Biofuels (for transportation) – 94 gCO₂e/MJ; ii) Bioliquids (production of electricity) – 183 CO₂e/MJ; and iii) Bioliquids (production of heat) – 80 CO₂e/MJ as per the EU Renewable Energy Directive II. For outermost regions and non-EU countries, the following baseline is applicable for electricity generation: 212 gCO₂e/MJ.

- Biogas and biomass plants with life cycle emissions of at least 65%¹⁷ lower than the fossil fuel baseline¹⁸ or a life cycle GHG emissions intensity below 100 gCO₂e/kWh for biofuel production that uses feedstock, such as sustainable crops.¹⁹
- Ocean thermal energy conversions projects with fossil fuel back-up will be limited to power monitoring, operating and maintenance equipment, as well as resilience or protection measures and restart capabilities.
- Hydropower projects without an artificial reservoir or with an artificial reservoir with a low storage capacity. For all new hydropower projects, the power density will be greater than 10 W/m² or have an emission intensity below 50 gCO₂e/kWh. For facilities that became operational before the end of 2022, the power density will be greater than 5 W/m² or have a life cycle carbon intensity below 100 gCO₂e/kWh. For all new hydropower projects, the Bank will conduct an environmental impact assessment by a credible body per project to ensure that all significant environmental and social risks, negative impacts or controversies have been identified.
- Development of cogeneration plants that generate electricity and provide heating and cooling in buildings. The Bank has confirmed that financing for cogeneration plants will be limited to those that are either: i) powered by CSP, solar thermal or biomass waste;²⁰ or ii) powered by geothermal energy or bioenergy with an emission intensity below 100 gCO₂e/kWh.
- Energy transmission and distribution networks to facilitate the integration of at least 90% renewable energy into the grid. The Bank will follow a pro-rata approach to determine the green allocation to grid development or maintenance for transmission infrastructure where the grid uses less than 90% renewable electricity but with the potential to increase the proportion of renewable electricity.
- Distributed assets, such as circuit breakers and voltage regulators intended to reduce the curtailment of renewable energy to the grid. Barclays will exclude projects with transmission lines directly connected or dedicated to fossil fuel power.
- Technologies, equipment and associated assets wholly dedicated and used to support renewable energy generation, such as wind turbines, solar panels and energy storage facilities, including battery storage connected to renewables and green hydrogen storage systems (e.g., fuel cells).
- Installation of electric heat pumps or absorption heat pumps driven by solar- or geothermal-heated water.
- Sustainalytics considers investments under this category to be in line with market practice.
- Under the Clean Transportation category, Bank may finance or refinance passenger vehicles, mass transport or freight transport systems and related infrastructure projects according to the following criteria:
 - Zero direct emission vehicles. The Bank has confirmed that all zero direct emission vehicles will be either fully electric or green hydrogen powered.
 - Hybrid passenger vehicles with an emission intensity threshold of 75 gCO₂/km.
 - Acquisition and manufacture of new vehicles with zero direct tailpipe emissions, such as locomotives and boats. Barclays has confirmed that the locomotives are not dedicated to the transport of fossil fuels.
 - Urban planning and development to reduce use of passenger cars, including improving public transportation connectivity.

¹⁷ Pre-2021 installations with a 60% life cycle emission reduction below the baseline and pre-2015 installations with a 50% life cycle emission reduction below the baseline.

¹⁸ Fossil fuel baselines for biofuel production facilities include: i) Biofuels (for transportation) – 94 gCO₂e/MJ; ii) Bioliquids (production of electricity) – 183 CO₂e/MJ; and iii) Bioliquids (production of heat) – 80 CO₂e/MJ as per the EU Renewable Energy Directive II. For outermost regions and non-EU countries, the following baseline is applicable for electricity generation: 212 gCO₂e/MJ.

¹⁹ Barclays confirmed that for biofuel production, it uses sustainable non-food crops, which includes but is not limited to crops certified to the Roundtable on Sustainable Biomaterials (RSB) or ISCC Plus; soy certified to the Round Table on Responsible Soy (RTRS); sugarcane certified to Bonsucro; wood certified to the Forest Stewardship Council (FSC) or the Programme for the Endorsement of Forest Certification (PEFC).

²⁰ Barclays confirmed that for biofuel production, it uses sustainable non-food crops, which includes but is not limited to crops certified to the Roundtable on Sustainable Biomaterials (RSB) or ISCC Plus; soy certified to the Round Table on Responsible Soy (RTRS); sugarcane certified to Bonsucro; wood certified to the Forest Stewardship Council (FSC) or the Programme for the Endorsement of Forest Certification (PEFC).

- Management of transport demand to reduce passenger car use, including high-occupancy vehicle lanes; information communication technologies (ICT) to improve asset utilization, flow and modal shift, such as through public transport information, car-sharing schemes and telematics; smart logistics and fleet management; and smart road-pricing systems.
- Development and operation of supporting infrastructure, including charging stations for public or mass transport systems for land and sea, such as refuelling for hydrogen-powered ships.
- Infrastructure for non-motorized transport, such as bicycles and pedestrian mobility, including public walking and cycling infrastructure that encourages a shift towards active mobility.
- Development and operation of associated infrastructure that supports or enables the operation of electric and low-carbon rail, as well as low-carbon water transport. The Bank has confirmed that freight rail will meet the maximum threshold of 25 gCO₂/tkm (40.23 gCO₂/tmi). Fossil fuels will not account for more than 50% of freight (by tkm) and the primary purpose of freight rail will not be the transportation of fossil fuel freight (the share of fossil fuel freight transported should not be more than 25% in mass).
- Sustainability considers investments under this category to be in line with market practice.
- Under the Sustainable Food, Agriculture, Forestry, Aquaculture and Fisheries category, the Bank may finance or refinance forest conservation and sustainable agriculture based on the following criteria:
 - Under the sustainable forestry sub-category, the Bank may finance forest conservation projects, including afforestation on non-forested land and reforestation on previously forested land using tree species that are well adapted to site conditions. These projects will be accompanied by a sustainable forest management plan. The Bank requires these projects to be certified under the Forest Stewardship Council (FSC),²¹ the Programme for the Endorsement of Forest Certification (PEFC)²² or the Sustainable Forestry Initiative (SFI).²³ Sustainability views these certification schemes as robust and credible. The Bank may also finance or refinance projects or products that have received the above certification. Forestry activities related to biomass production for power generation, unless it aligns with renewable energy criteria of the Framework, is excluded. Sustainability considers these activities as aligned with market practice.
 - Under the sustainable food and agriculture sub-category, the Bank may finance or refinance projects that do not deplete existing carbon pools, including projects that promote minimal or no use of synthetic fertilizer or pesticides and reduce water use (including irrigation). Projects under this sub-category will also include:
 - Wildlife habitat management, including planting and expanding hedgerows, collecting and using agricultural waste and rehabilitating degraded lands through soil health improvements, among other measures.
 - Production of organic food that is certified to the International Federation of Organic Agriculture Movements (IFOAM).²⁴ Production of non-food products certified by EU Organic,²⁵ Rainforest Alliance,²⁶ Better Cotton Initiative²⁷, Soil Association Certification organic standards²⁸ and USDA Organic.²⁹
 - Production of organic plant-based proteins with life cycle GHG emissions lower than meat-based protein, as well as proteins from sustainably sourced raw materials certified to the Roundtable on Responsible Soy (RTRS)³⁰ and UTZ³¹ in addition to the certifications mentioned above.

²¹ FSC: <https://fsc.org/en>

²² PEFC: <https://www.pefc.org/>

²³ SFI: <https://forests.org/>

²⁴ IFOAM: <https://www.ifoam.bio/>

²⁵ EU Organic: <http://www.eu-organic-food.eu/en/european-union-standards/>

²⁶ Rainforest Alliance: <https://www.rainforest-alliance.org/about/>

²⁷ Better Cotton Initiative: https://bettercotton.org/wp-content/uploads/2019/01/Better-Cotton-Principles_Overview_Extended.pdf

²⁸ Soil Association Certification: <https://www.soilassociation.org/our-standards/read-our-organic-standards/>

²⁹ USDA Organic: <https://www.usda.gov/topics/organic>

³⁰ RTRS: <https://responsiblesoy.org/?lang=en>

³¹ UTZ: <https://www.rainforest-alliance.org/utz/>

- Research and development of lab-grown proteins and alternative proteins, such as insects. Barclays has confirmed that these expenses will be limited to 10% of net proceeds per issuance.
 - Implementation of low-carbon agricultural technologies, such as vertical farming, hydroponics, aeroponics and crop sensors that improve productivity and efficiency. Sustainalytics recognizes the potential of these advanced technologies to reduce water and resource inputs but notes that such farming methods may be energy intensive. To address this concern, the Bank has confirmed that the projects financed will be powered by renewable energy sources and energy-efficiency measures. Therefore, Sustainalytics views this to be in line with market expectation.
 - Production of biofuels or biogas in line with criteria defined under the Renewable Energy category.
 - Sustainalytics considers investments under this category to be in line with market practice.
- Under the Resource Efficiency and Pollution Control category, the Bank may finance or refinance the development, construction, operation or maintenance of sustainable waste management projects, based on the following criteria:
- Under the recycling and reuse sub-category, Barclays may finance the following projects:
 - Waste management companies that incorporate recycling and sustainable waste management practices and recycling facilities powered by renewable energy. The companies will generate at least 90% of their revenue from these activities. The Framework requires that any recycling of electronic waste activity financed is supported by the implementation of a robust waste management plan, and any plastic recycling is limited to mechanical recycling.
 - Treatment of bio-waste through anaerobic digestion for production of biogas and digestate.
 - Treatment of bio-waste through composting (aerobic digestion) for production of compost.
 - Landfill gas capture projects for energy generation will be limited to those from closed or decommissioned landfills with 75% or more gas capture efficiency.
 - Barclays will exclude plastics, rubber, tire-derived fuels for energy or fuel conversion, and treatment of bio-waste from non-RSPO certified palm oil operations. Sustainalytics notes that recovering methane produced from a closed landfill will not prolong the lifespan of the landfill and is a key strategy to reduce methane emissions from waste. Sustainalytics considers investments under this category to be in line with market practice.
 - Under the circular economy sub-category, Barclays may finance or refinance the following projects:
 - Procurement of waste and recycled material and bio-based raw materials (excluding bio-based plastics) from sustainable sources.
 - Production of resource-efficient or low-carbon products that are RSB³² certified.
 - Production of aluminium-based consumer products where at least 90% of the input comes from scrap or recycled aluminium.
 - Production of plastic that meets the following criteria: i) plastic composition of at least 90% recycled or bio-based materials; ii) at least 90% of the plastic is not intended for single-use applications; and iii) all final products are recyclable. Barclays has confirmed that it will only consider criteria under the CBI.
 - Projects and companies that undertake repair activities aimed at increasing the lifespan of products. Sustainalytics notes that Barclays will only finance repair activities where products are reused without any pre-processing required. For e-waste, the product should be covered by an eco-labelling scheme. Barclays will only finance companies that generate at least 90% of their revenue from these activities.
 - Sustainalytics considers these activities to be aligned with market practice.

³² Roundtable on Sustainable Biomaterials, "About the RSB", at: <https://rsb.org/about/>

- Under the GHG emission reduction sub-category, Barclays may finance or refinance the following projects:
 - Development of processes or systems to reduce GHG emissions in supply chains, including upgrading processes and installing sensors to monitor or test emissions. Barclays confirmed to Sustainalytics that none of these processes will apply to fossil fuel assets.
 - Retrofits of existing commercial, residential or industrial facilities that result in GHG emission reductions with refrigerants that have a lower GWP coupled with robust refrigerant leak control, detection and monitoring, while ensuring recovery, reclamation and recycling or destruction of refrigerants at end of life. Barclays acknowledges that activities under this sub-category are very similar to activities under energy efficiency for buildings. However, Barclays informed Sustainalytics that it has internal processes in place to avoid double counting.
 - Sustainalytics considers investments under this category to be in line with market practice.
- The Bank has confirmed that projects intended for: i) fossil fuel operations; ii) production processes in heavy industries, such as cement, steel and aluminium; iii) GHG emissions capture in active landfills; and iv) carbon capture utilization where captured carbon is intended for enhanced oil recovery will not be financed under the Framework.
- Under the Sustainable Water and Wastewater Management category, Barclays may finance or refinance the following activities:
 - Products, services and projects aimed at resolving water scarcity, improving the quality of water supply and improving the availability and reliability of water. Examples include water reclamation systems and leak detection sensors that enable early detection of water losses and facilitate prompt intervention.
 - Development of new and repair of existing water and wastewater sanitation pipelines.
 - Distribution of drinking water through companies such as water utility companies with measurable improvements to water quality, water efficiency or climate change resilience.
 - Purchase of land, forests and other vegetation in the upper watershed to improve the quality of water bodies and groundwater recharge areas.
 - Development, manufacture, installation and operation of wastewater treatment plants and technologies, systems or facilities that recycle, compost or increase efficiency of wastewater processing.
 - Sustainalytics notes that Barclays excludes treatment of wastewater from fossil fuel-based or carbon-intensive sectors.
 - Sustainalytics considers investments under this category to be in line with market practice.
- Sustainalytics notes that the Framework includes additional categories for climate change adaptation, carbon financing and cross sector activities. As noted previously, Barclay does not intend to allocate proceeds to these category until CBI has developed criteria for them. As noted previously this SPO does not opine on these additional categories.
- Under the Affordable Housing category, Barclays may finance or refinance Eligible Assets to regulated social housing providers or registered social landlords³³ in the UK that are involved in: i) the development and operation of shelters, halfway homes or community housing provided; ii) financing of affordable and low-income housing including Shared Ownership³⁴ and Right to Buy³⁵ schemes; and iii) renovation, maintenance and improvement of affordable and social housing assets described above.
 - Barclays may finance supported housing, such as shelters, halfway homes or community housing through social housing providers to support accommodation for vulnerable population groups that require supervision or care to live independently. The UK government has developed a National Statement of Expectations for the supported housing sector and announced in 2018 that costs for supported housing would be

³³ Registered social landlords also known as housing associations are not for profit, private sector organization that provides affordable housing to people of the United Kingdom (UK).

³⁴ Government of the UK, "Shared Ownership", at: <https://www.ownyourhome.gov.uk/scheme/shared-ownership/>

³⁵ Government of the UK, "Right to Buy: buying your council home", at: <https://www.gov.uk/right-to-buy-buying-your-council-home>

funded by the Housing Benefit.³⁶ Sustainalytics notes that the supported housing sector is diverse, with considerable variation among housing providers, schemes and associated support services, such as those offered by local council housing, housing associations, voluntary organizations and charities. Sustainalytics notes that the Framework restricts financing for supported housing projects to social landlords that are governed by the UK government. The Bank defines affordable rent properties as homes provided by housing associations with controls that ensure that rents charged are not higher than 80% of local market rent.³⁷

- Barclays has confirmed to Sustainalytics that it may finance registered social landlords in the UK that provide affordable housing under the UK government's Shared Ownership scheme, which sells homes to people for whom open market purchases would otherwise be unattainable. Purchasers buy a share of the property and pay rent on the remaining value. Eligibility for the scheme is determined by government criteria which limit households to those with an annual income of up to GBP 80,000 (EUR 91,000) or GBP 90,000 (EUR 102,000) in London. Furthermore, the registered social landlords may also target individuals and families covered under the UK government's Right to Buy scheme, which enables tenants of council homes³⁸ to buy their homes at a discount
- Sustainalytics notes that the role of Barclays is limited to providing financing to registered social landlords for the development, refurbishment, operation, and improvement of affordable housing as described above, and does not have control over the detailed criteria for determining the low-income groups deemed eligible for the registered social landlord's properties and the corresponding affordability mechanisms.
- Furthermore, Sustainalytics recognizes the expected benefits from investment in this category for many first-time home buyers. However, in Sustainalytics' opinion, it is best practice to define a target population with an upper threshold at or below the annual median income at the municipal or regional level to ensure increased access to affordable housing. Although the Framework follows the government's income cap, this is still well above the median household income in the UK, which was GBP 44,663 (EUR 50,782) in FY2021.³⁹ Given the relatively high thresholds used by the UK government's Shared Ownership scheme, Sustainalytics encourages Barclays to report on the positive social impact of its financing allocated to below-median income populations, to the extent possible.
- Project Evaluation and Selection:
 - Barclays has established ESG governance forums under each issuing entity for project evaluation and selection. The ESG governance forums comprises senior representatives from the Bank's sustainability and ESG functions, representatives from business lines that manage the eligible assets and the respective notes programme, and representatives of the compliance and legal teams. The ESG governance forum will consider material risks and potential mitigants along with social and environmental impacts in the decision to approve assets for use within the eligible asset pools. For additional detail, see Section 2.
 - Eligible assets will not be fungible across green eligible assets and social eligible asset registers and will be managed separately. Barclays will not select assets that have been used as collateral in external funding transactions to avoid double counting of assets. The Bank will monitor eligible assets to check for use as collateral and flag such assets in its loan systems.

³⁶ Government of the UK, "Funding for Supported Housing", (2018), at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/732692/Supported_Housing_Funding_Consultation_Response.pdf

³⁷ Government of the UK, "Rent Standard - April 2020", (2022), at: <https://www.gov.uk/government/publications/rent-standard/rent-standard-april-2020>

³⁸ Council housing in the UK refers to public housing rented to individuals and households who are unable to afford market-rate rents or cannot buy their own home. Registered Social Landlords, including semi-independent and not-for-profit housing associations, and council housing are collectively referred to as social housing in the UK.

³⁹ Office for National Statistics, "Average household income, UK: financial year ending 2021", (2022), at:

<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/householddisposableincomeandinequality/financialyearending2021>

- Based on the presence of the ESG governance forum and adequate environmental and social risk management systems, Sustainalytics considers this process to be in line with market expectations.
- Management of Proceeds:
 - The treasury or portfolio management department at Barclays will monitor the allocation of proceeds monthly following an issuance of notes to ensure that eligible asset balances are updated, and that facilities which mature, are repaid or are no longer eligible are removed from the portfolio. To avoid doubt, the Bank will use proceeds of a note only to finance or refinance the notional amount outstanding of each eligible asset, which remains funded by Barclays and is not encumbered in any external funding transaction.
 - Barclays will allocate the net proceeds at the time of issuance.
 - In the event that funds cannot be immediately and fully allocated or in the event of any early repayment, proceeds will be used in accordance with Barclay's liquidity policy until allocation to eligible projects. These uses may include cash and short-term liquid investments.
 - Based on the use of an internal tracking system and the disclosure of the temporary use of proceeds, Sustainalytics considers this process to be in line with market practice.
- Reporting:
 - Barclays intends to report on the allocation of proceeds and corresponding impact through a Green & Social Notes Report and on Barclays' investor relations website on an annual basis as long as the notes are outstanding.
 - Allocation reporting will include the total amount of proceeds allocated to each category, the balance of unallocated proceeds, and the categories of investments made in temporary investment instruments that are cash and short-term liquid investments.
 - Additionally, the Bank commits to reporting on relevant impact metrics on its website through investor presentations and issuance documentation. An independent assurance provider will verify the allocation and impact reporting. Please see the full list of impact metrics in Appendix 1.
 - Based on the commitment to report on the allocation and impact, Sustainalytics considers this process to be in line with market practice.

Alignment with Sustainability Bond Guidelines 2021

Sustainalytics has determined that the Barclays Green and Social Notes Framework aligns with the four core components of the GBP and SBP. For detailed information, please refer to Appendix 1: Sustainability Bond/Sustainability Bond Programme External Review Form.

Section 2: Sustainability Strategy of Barclays

Contribution to Barclays sustainability strategy

Barclays Group's sustainability strategy applies to Barclays Bank PLC and its subsidiaries and focuses on the following key environmental pillars: i) achieving net zero emissions from own operations by 2050; ii) expanding green and sustainable financing activities; and iii) reducing financed emissions by focusing on the highest-emitting sectors, including energy (coal, oil and gas) and power.⁴⁰

To support its ambition of becoming net zero by 2050, Barclays Group became a member of the Net-Zero Banking Alliance in 2021, which is part of the Glasgow Financial Alliance for Net Zero.⁴¹

Regarding sustainable and transition financing, Barclays Group has set a target to facilitate USD 1 trillion in these areas between 2023 and 2030.⁴² As a part of its Sustainable Impact Capital portfolio, Barclays Group has committed GBP 500 million (USD 618.4 million) of equity capital for climate-technology start-ups by 2027, helping to accelerate the transition towards a low-carbon economy.⁴³ As of March 2022, Barclays Group has also facilitated GBP 62.2 billion (USD 77.1 billion) for green financing activities.⁴⁴ Barclays Group aims to

⁴⁰ Barclays, "Barclays' Climate Strategy, Targets and Progress 2022", at: <https://home.barclays/content/dam/home-barclays/documents/citizenship/Sustainability/Barclays-Climate-Strategy-Targets-and-Progress-2022-Final.pdf>

⁴¹ UNEP FI, "Net-Zero Banking Alliance", at: <https://www.unepfi.org/net-zero-banking/>

⁴² Barclays, "Addressing climate change", at: <https://home.barclays/sustainability/addressing-climate-change/>

⁴³ Barclays, "Sustainable Impact Capital", at: <https://home.barclays/sustainability/addressing-climate-change/financing-the-transition/sustainable-impact-capital/>

⁴⁴ Barclays, "Barclays' Climate Strategy, Targets and Progress 2022", at: <https://home.barclays/content/dam/home-barclays/documents/citizenship/Sustainability/Barclays-Climate-Strategy-Targets-and-Progress-2022-Final.pdf>

reduce absolute CO₂ emissions by 40% in the energy portfolio and achieve a 50-69% reduction in the CO₂e intensity in its power portfolio by 2030 compared to 2020 levels.⁴⁵ Additionally, Barclays Group has committed to a 20-26% reduction in CO₂e intensity from its cement portfolio and a 20-40% reduction in CO₂e intensity from the steel portfolio by 2030 from the 2021 baseline.⁴⁶

Barclays Group is also a member of the Partnership for Carbon Accounting Financials, supporting the development of the Global Carbon Accounting Standard.⁴⁷ In 2021, Barclays Group chaired a capital markets working group of six global banks that are developing a methodology to account for the emissions associated with banks' activities in capital market transactions.⁴⁸ In September 2019, Barclays Group joined 16 other banks in piloting the Paris Agreement Capital Transition Assessment.⁴⁹ Barclays is also a member of the Financing a Just Transition Alliance, led by the Grantham Research Institute at the London School of Economics and Political Science, to facilitate and support just transition activities.⁵⁰ Barclays joined the Principles for Responsible Banking under the United Nations Environment Programme Finance Initiative in September 2019,⁵¹ and has been a signatory to the Financial Stability Board's Taskforce on Climate-related Financial Disclosures since 2017.⁵²

Sustainalytics is of the opinion that the Framework is aligned with the Barclays Group climate strategy and environmental initiatives and will further enhance Barclays' action on its key environmental priorities. Sustainalytics notes the importance of the climate strategy but encourages Barclays to develop a social strategy and transparent targets.

Approach to managing environmental and social risks associated with the projects

Sustainalytics recognizes that Barclays will direct the use of proceeds from instruments issued under the Framework towards eligible projects that are expected to have positive environmental and social impacts. However, Sustainalytics is aware that such eligible projects could also lead to negative environmental and social outcomes. Some key environmental and social risks possibly associated with the eligible projects could include issues related to land-use change and biodiversity loss from large infrastructure projects, emissions, effluents and waste generated in construction, community relations and human rights. Sustainalytics acknowledges that the Bank plays a limited role in the implementation of specific projects, but notes that it is exposed to risks associated with companies or projects to which it provides lending and financial services. Additionally, Sustainalytics considers business ethics and product governance as material issues for financial institutions and highlights the need for strong policies and procedures to ensure that these risks are sufficiently mitigated.

Sustainalytics is of the opinion that Barclays is able to manage or mitigate potential risks by implementing the following:

- The Bank has a governance structure in place to oversee and identify environmental and social risks related to commercial lending, having 50 environmentally and socially sensitive activities pre-identified across 10 sectors.^{53,54} Additionally, the Bank has an Enterprise Risk Management Framework in place to govern and manage climate risks.⁵⁵
- As a part of its Client Assessment and Aggregation policy, the Bank performs due diligence assessments that include environmental reports and consider potential project impacts on: air, water and land quality; biodiversity issues; locally affected communities, including any material upstream and downstream impacts; working conditions; and employee and community health and safety.⁵⁶

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Partnership for Carbon Accounting Financials, "Financial institutions taking action", at: <https://carbonaccountingfinancials.com/financial-institutions-taking-action#overview-of-institutions>

⁴⁸ Barclays, "Financing the transition", at: <https://home.barclays/sustainability/addressing-climate-change/financing-the-transition/>

⁴⁹ 2° Investing Initiative, "PACTA / Climate Scenario Analysis Program", at:

<https://2degrees-investing.org/resource/pacta/>

⁵⁰ The London School of Economics and Political Science, "Financing a Just Transition", at: <https://www.lse.ac.uk/granthaminstitute/financing-a-just-transition/>

⁵¹ UNEP FI, "Principles for Responsible Banking", at: <https://www.unepfi.org/banking/bankingprinciples/>

⁵² Barclays, "Barclays' Climate Strategy, Targets and Progress 2022", at: <https://home.barclays/content/dam/home-barclays/documents/citizenship/Sustainability/Barclays-Climate-Strategy-Targets-and-Progress-2022-Final.pdf>

⁵³ Barclays, "Environmental risk policy", (2022), at: <https://home.barclays/content/dam/home-barclays/documents/citizenship/our-reporting-and-policy-positions/policy-positions/Environmental-Risk-in-Lending-Statement-2022.pdf>

⁵⁴ Barclays conducts due diligence for agribusiness, forestry and forest products, infrastructure, oil and gas (conventional and unconventional), coal fired power, hydropower, nuclear power, and mining. The 10 sectors include agriculture and fisheries; chemicals and pharmaceuticals; forestry and logging; infrastructure; manufacturing; metals and mining; oil and gas; power generation; supply and distribution; service industry; utilities and waste management.

⁵⁵ Barclays, "Climate Related Financial Disclosures 2021", at: <https://home.barclays/content/dam/home-barclays/documents/investor-relations/reports-and-events/annual-reports/2021/Barclays-TCFD-Report-2021.pdf>

⁵⁶ Barclays' Climate Assessment and Aggregation Policy document was shared to Sustainalytics and reviewed confidentially.

- Regarding issues related to land-use change and biodiversity loss, Barclays has elaborated a Forestry and Agricultural Commodities Statement that aims to address deforestation risks on timber, palm oil and soy production.⁵⁷ Barclays assesses clients in these sectors for compliance with the requirements outlined in the statement and other environmental issues such as zero deforestation commitments and sustainability certification coverage.^{58, 59}
- Barclays follows an environmental risk standard, which implements the Equator Principles and relevant IFC performance standards for project finance-related activities,⁶⁰ suggesting the presence of strong environmental and social governance systems and institutional capacity designed to protect local environments and communities.⁶¹
- To mitigate or manage risks associated with stakeholder participation, Barclays has implemented a formal stakeholder engagement process following the Global Reporting Initiative standards and reporting indices⁶² with reference to the relevant sector guidelines from the Sustainability Accounting Standards Board.^{63, 64}
- Regarding issues related to human rights, Barclays operates in accordance with the International Bill of Human Rights, which takes into account other internationally accepted human rights standards including the Universal Declaration of Human Rights and the UN's Guiding Principles on Business and Human Rights. Barclays takes steps to ensure the respect of human rights in its own operations through its employment policies, screening and engagement within its supply chain and through the responsible provision of its products and services.⁶⁵ Barclays' position statements and related due diligence approach for clients operating in certain sectors with elevated environmental and social impacts seek to include considerations of human rights impacts. Barclays has also developed a due diligence questionnaire for clients to assess the application of the free, prior and informed consent (FPIC) principle in projects that may potentially affect indigenous people.⁶⁶
- The Bank has a code of business conduct policy applicable to all members of its board of directors and employees in their dealings with clients and business partners. The code covers the Bank's requirements on transparency, integrity, accountability, compliance with laws and regulations, standards of behaviour, personal conduct and ethics of doing business. It also provides guidance on the Bank's activities related to business ethics, compliance with laws and regulations, bribery and corruption, anti-money laundering, counter-terrorism financing and overall corporate responsibility.⁶⁷

Based on the above, Sustainalytics is of the opinion that Barclays has implemented adequate measures and is well positioned to manage and mitigate environmental and social risks commonly associated with projects in the eligible categories.

Section 3: Impact of Use of Proceeds

All seven use of proceeds categories are aligned with those recognized by the GBP and SBP. Sustainalytics has focused on two below where the impact is specifically relevant in the local context.

⁵⁷ Barclays, "Barclays Forestry and Agricultural Commodities Statement", (2020), at:

<https://home.barclays/content/dam/home-barclays/documents/citizenship/our-reporting-and-policy-positions/Forestry-and-Agricultural-Commodities-Statement.pdf>

⁵⁸ Barclays, "Annual Report 2021", (2022), at: <https://home.barclays/content/dam/home-barclays/documents/investor-relations/reports-and-events/annual-reports/2021/Barclays-PLC-Annual-Report-2021.pdf>

⁵⁹ International Finance Corporation, "Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources", (2012), at: https://www.ifc.org/wps/wcm/connect/3baf2a6a-2bc5-4174-96c5-eec8085c455f/PS6_English_2012.pdf?MOD=AJPERES&CVID=jxNblC0

⁶⁰ Equator Principles, "Barclays PLC", at: <https://equator-principles.com/report/barclays-plc-2021/>

⁶¹ Equator Principles, "About the Equator Principles", at: <https://equator-principles.com/about-the-equator-principles/>

⁶² Barclays, "Global Reporting Initiative (GRI) Content Index", at: https://home.barclays/content/dam/home-barclays/documents/investor-relations/ResultAnnouncements/2021FYResults/GRI_Content_Index_2021.pdf

⁶³ Barclays, "Sustainability Accounting Standards Board (SASB)", at: https://home.barclays/content/dam/home-barclays/documents/investor-relations/ResultAnnouncements/2021FYResults/Sustainability_Accounting_Standards_Board_SASB_2021.pdf

⁶⁴ Barclays, "ESG Resource Hub", at: <https://home.barclays/sustainability/esg-resource-hub/>

⁶⁵ Barclays, "Annual Report 2021", (2022), at: <https://home.barclays/content/dam/home-barclays/documents/investor-relations/reports-and-events/annual-reports/2021/Barclays-PLC-Annual-Report-2021.pdf>

⁶⁶ Barclays, "Annual Report 2021", (2022), at: <https://home.barclays/content/dam/home-barclays/documents/investor-relations/reports-and-events/annual-reports/2021/Barclays-PLC-Annual-Report-2021.pdf>

⁶⁷ Barclays, "The Barclays Way: How we do Business", (2022) at: https://home.barclays/content/dam/home-barclays/documents/citizenship/the-way-we-do-business/The_Barclays_Way.pdf

Contribution of green buildings to climate change mitigation in the UK

The UK built environment (including buildings and infrastructure) was responsible for 25% of the UK's total GHG emissions in 2018.⁶⁸ The UK housing stock is the oldest in Europe, with 40% of houses in England and Wales built before 1919 and 32% have uninsulated cavity walls, making them energy inefficient.^{69,70} In addition, a large share of the energy consumed is generated from fossil fuels, with gas boilers being the primary heating source for 85% of homes in the UK.⁷¹

The UK's Integrated National Energy and Climate Plan includes a target to achieve countrywide net zero GHG emissions by 2050.⁷² The UK has also set intermediate emission reduction goals of 68% by 2030 and 78% by 2035 relative to 1990 levels.⁷³ Additionally, updated building regulations in the UK require existing buildings to undergo deep energy retrofits and new buildings to meet increasingly stringent standards, including strategies to reduce construction impacts and improve operational energy use and energy efficiency.⁷⁴ For households, the British government has recently proposed the ECO+ scheme with GBP 1 billion (EUR 1.17 billion) in funding, in an attempt to expand the pool of recipients in comparison with previous versions of the Energy Company Obligation (ECO) scheme and meet an ambition of reducing energy consumption from buildings and industry by 15% by 2030.^{75,76,77}

Based on the above, Sustainalytics expects Barclays' financing of green buildings to contribute in reducing GHG emissions and energy consumption from the building sector in the UK, and to support the UK in achieving its climate targets.

Importance of increasing the share of renewable energy in the UK, EU and US

Energy supply accounted for 23.6% of total CO₂ emissions in 2021 in the UK,⁷⁸ where fossil fuels make up 35% of the country's sources for electricity production in 2021.⁷⁹ On the demand side, electricity demand in the UK is projected to increase by 50% by 2035 relative to a 2019 baseline due to increasing demand from the transport, building and industrial sectors.⁸⁰ In 2021, the UK government pledged to fully decarbonize the British power system by 2035.⁸¹ In this scenario, energy generated from renewable sources is expected to play a key role in achieving the country's decarbonization targets and clean-power goals, with wind and solar projected to be "key building blocks of the future generation mix".⁸² The UK government aims to increase onshore wind and solar capacity by an additional 12 GW and offshore wind capacity to 40 GW by 2030.⁸³ Additionally, the UK targets the deployment of 22 GW of wave and tidal energy generation capacity by 2050.⁸⁴

⁶⁸ UK Green Building Council, "Net Zero Whole Life Carbon Roadmap", (2021), at: <https://ukgbc.s3.eu-west-2.amazonaws.com/wp-content/uploads/2021/11/28194152/UKGBC-Whole-Life-Carbon-Roadmap-Technical-Report.pdf>

⁶⁹ UK Green Building Council, "Climate Change", at: <https://www.ukgbc.org/climate-change-2/>

⁷⁰ Piddington, J. et al. "The Housing Stock of The United Kingdom", BRE Trust, (2020), at: https://files.bregroup.com/bretrust/The-Housing-Stock-of-the-United-Kingdom_Report_BRE-Trust.pdf

⁷¹ Committee on Climate Change, "Heat in UK buildings today", (2019), at: <https://www.theccc.org.uk/wp-content/uploads/2017/01/Annex-2-Heat-in-UK-Buildings-Today-Committee-on-Climate-Change-October-2016.pdf>

⁷² UK Department for Business, Energy & Industrial Strategy, "The UK's Integrated National Energy and Climate Plan", (2020), at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/991649/uk-integrated-national-energy-climate-plan-necp-31-january-2020.pdf

⁷³ Government of the UK, "UK enshrines new target in law to slash emissions by 78% by 2035", (2021), at: [https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035#:~:text=The%20UK%20government%20will%20set,today%20\(Tuesday%20%20April\)](https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035#:~:text=The%20UK%20government%20will%20set,today%20(Tuesday%20%20April)).

⁷⁴ UK Green Building Council, "Net Zero Carbon Buildings Framework", (2022), at: <https://www.ukgbc.org/ukgbc-work/net-zero-carbon-buildings-framework/>

⁷⁵ UK Office of Gas and Electricity Markets, "Energy Company Obligation (ECO)", at: <https://www.ofgem.gov.uk/environmental-and-social-schemes/energy-company-obligation-eco>

⁷⁶ Government of the UK, "Design of the Energy Company Obligation (ECO): 2023-2026", (2022), at: <https://www.gov.uk/government/consultations/design-of-the-energy-company-obligation-eco-2023-2026>

⁷⁷ The Guardian, "UK government to introduce grants to make homes more energy efficient", (2022), at: <https://www.theguardian.com/business/2022/nov/25/uk-government-to-introduce-grants-to-make-homes-more-energy-efficient>

⁷⁸ UK Department for Business, Energy & Industrial Strategy, "2021 UK greenhouse gas emissions, provisional figures", (2022), at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1064923/2021-provisional-emissions-statistics-report.pdf

⁷⁹ National Grid, "How much of the UK's energy is renewable?", (2022), at: <https://www.nationalgrid.com/stories/energy-explained/how-much-uks-energy-renewable>

⁸⁰ Climate Change Committee, "The Sixth Carbon Budget: The UK's path to Net Zero", (2020), at: <https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf>

⁸¹ Government of the UK, "Net Zero Strategy: Build Back Greener", (2021), at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1033990/net-zero-strategy-beis.pdf

⁸² UK Department for Business, Energy & Industrial Strategy, "Energy White Paper: Powering our Net Zero Future", (2020), at: <https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future>

⁸³ Ibid.

⁸⁴ Jin, S. et al. (2021), "Wave energy in the UK: Status review and future perspectives", Renewable and Sustainable Energy Reviews, at: <https://www.sciencedirect.com/science/article/abs/pii/S1364032121002240?via%3Dihub>

In the European Union, the energy system accounts for 75% of the bloc's total GHG emissions.⁸⁵ In 2020, electricity production from renewable sources was estimated to make up 22% of the EU supply.⁸⁶ As part of the European Green Deal, the EU set a goal to become climate neutral by 2050, including intermediate targets to reduce its GHG emissions by at least 40% and to increase the share of energy usage from renewable sources to at least 32% by 2030 relative to 1990 levels.⁸⁷ To achieve these targets, renewable sources should make up a larger portion of the energy mix, and more specifically with regard to electricity consumption, it should range between 60% and 65% of all EU electricity consumption.⁸⁸ A substantial expansion of renewable energy production is required for the EU to achieve its short- and long-term targets.⁸⁹ As part of the EU's broader strategy to increase share of renewables in the bloc's energy mix and reach climate neutrality by 2050, the REPowerEU plan aims to install new solar PV systems with a total capacity of more than 320 GW by 2025 and almost 600 GW by 2030.⁹⁰ The REPowerEU plan also includes targets for the EU to have an installed capacity of more than 60 GW of offshore wind and 1 GW of ocean energy by 2030, as well as 300 GW and 40 GW, respectively, by 2050.⁹¹

In the US, the electricity sector is the second-largest source of GHG emissions, accounting for 25% of the country's GHG emissions in 2020, with approximately 60% of the US electricity generation coming from fossil fuels.^{92,93} Although renewable energy generation in the US has experienced significant growth since 2008, it accounted for only 20.1% of the country's total electricity generated in 2021.⁹⁴ Currently available technologies, including wind and solar energy, have the potential to increase renewable energy capacity to account for 80% of US electricity generation by 2050.⁹⁵ In 2021, the US government set a goal to reach a "carbon pollution-free power sector" by 2035.⁹⁶ The adoption of the Inflation Reduction Act is expected to boost the range of clean-energy technologies through the provision of USD 370 billion in public support for clean energy, with more expected from the private sector.⁹⁷ The US has also set targets to achieve 30 GW of installed offshore wind capacity by 2030, leading to a potential 110 GW by 2050.⁹⁸

Based on the above, Sustainalytics is of the opinion that Barclays' financing of renewable energy projects is expected to contribute to expanding the use of renewables and consequently help reduce energy-related GHG emissions in the UK, EU and US.

Contribution to SDGs

The Sustainable Development Goals were adopted in September 2015 by the United Nations General Assembly and form part of an agenda for achieving sustainable development by 2030. The instruments issued under the Barclays Green and Social Notes Framework are expected to help advance the following SDGs and targets:

Use of Proceeds Category	SDGs	SDG targets
Energy Efficiency	9. Industry, Innovation and Infrastructure	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound

⁸⁵ European Commission, "Powering a climate-neutral economy: Commission sets out plans for the energy system of the future and clean hydrogen", (2020), at: https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1259

⁸⁶ Eurostat, "Renewable energy statistics", at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Renewable_energy_statistics

⁸⁷ European Commission, "2030 climate & energy framework", at: https://climate.ec.europa.eu/eu-action/climate-strategies-targets/2030-climate-energy-framework_en

⁸⁸ French Institute of International Relations, "More renewables in the European Union? Yes, we can", (2018), at: <https://www.ifri.org/en/publications/editoriaux-de-lifri/edito-energie/more-renewables-european-union-yes-we-can>

⁸⁹ Ibid.

⁹⁰ European Commission, "REPowerEU: affordable, secure and sustainable energy for Europe", at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en

⁹¹ European Commission, "Offshore renewable energy", at: https://energy.ec.europa.eu/topics/renewable-energy/offshore-renewable-energy_en

⁹² US Environmental Protection Agency, "Sources of Greenhouse Gas Emissions", at: <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>

⁹³ US Energy Information Administration, "Electricity Explained", at: <https://www.eia.gov/energyexplained/electricity/>

⁹⁴ Ibid.

⁹⁵ US National Renewable Energy Laboratory, (2012), "Renewable Electricity Futures Study", at: <https://www.nrel.gov/docs/fy13osti/52409-ES.pdf>

⁹⁶ The White House, "President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies", (2021), at: <https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/>

⁹⁷ IEA, "World Energy Outlook", (2022), at: <https://iea.blob.core.windows.net/assets/830fe099-5530-48f2-a7c1-11f35d510983/WorldEnergyOutlook2022.pdf>

⁹⁸ US Department of Energy, "The United States' Clean Energy Goals", at: https://www.renewable-ei.org/pdfdownload/activities/01_Key_AlejandroMoreno.pdf

		technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
Renewable Energy Generation	7. Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
Clean Transportation	11. Sustainable Cities and Communities	11.2 By 2030, provide access to safe, affordable, accessible, and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons
Sustainable Agriculture and Sustainable Management of Living Natural Resources	15. Life on Land	15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species
Resource Efficiency and Pollution Prevention and Control	12. Responsible Consumption and Production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
Sustainable Water and Wastewater Management	6. Clean Water and Sanitation	6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
Affordable Housing	11. Sustainable Cities and Communities	11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

Conclusion

Barclays has developed the Barclays Green and Social Notes Framework, under which it may issue bonds, covered bonds, structured notes, fixed-term deposits, commercial papers and other debt instruments to finance projects under the following categories: Energy Efficiency; Renewable Energy; Sustainable Transport; Sustainable Food, Agriculture, Forestry, Aquaculture and Fisheries; Resource Efficiency and Pollution Control; Sustainable Water; and Affordable Housing. Sustainalytics considers that projects to be funded by the instruments' proceeds can be expected to provide positive environmental and social impacts.⁹⁹

The Barclays Green and Social Notes Framework outlines a process for tracking, allocating and managing proceeds, and makes commitments for the Bank to report on their allocation and impact. Sustainalytics believes that the Barclays Green and Social Notes Framework is aligned with the overall sustainability strategy of the Bank and that the use of proceeds categories will contribute to the advancement of the UN Sustainable Development Goals 1, 2, 3, 6, 7, 9, 10, 11, 12, 13, 14 and 15. Additionally, Sustainalytics is of the opinion that Barclays has adequate measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects.

Based on the above, Sustainalytics is confident that Barclays is well positioned to issue bonds, covered bonds, structured notes, fixed-term deposits, commercial papers and other debt instruments, and that the Barclays Green and Social Notes Framework is robust, transparent and in alignment with the four core components of the Green Bond Principles (2021), Social Bond Principles (2021) and Sustainability Bond Guidelines (2021).

⁹⁹ As noted previously, Barclays has committed to ensuring that all expenditures made under green categories in the Framework will comply with the applicable sector criteria of the Climate Bonds Standard (CBI). As the Framework contains criteria for activities for which CBI has not yet developed criteria, this SPO opines only on those project categories for which CBI has developed criteria.

Appendix

Appendix 1: Sustainability Bond / Sustainability Bond Programme - External Review Form

Section 1. Basic Information

Issuer name:	Barclays
Sustainability Bond ISIN or Issuer Sustainability Bond Framework Name, if applicable:	Barclays Green and Social Notes Framework
Review provider's name:	Sustainalytics
Completion date of this form:	January 31, 2023
Publication date of review publication:	

Section 2. Review overview

SCOPE OF REVIEW

The following may be used or adapted, where appropriate, to summarise the scope of the review.

The review assessed the following elements and confirmed their alignment with the GBP and SBP:

- | | |
|--|--|
| ☒ Use of Proceeds | ☒ Process for Project Evaluation and Selection |
| ☒ Management of Proceeds | ☒ Reporting |

ROLE(S) OF REVIEW PROVIDER

- | | |
|---|--|
| ☒ Consultancy (incl. 2 nd opinion) | ☐ Certification |
| ☐ Verification | ☐ Rating |
| ☐ Other (please specify): | |

Note: In case of multiple reviews / different providers, please provide separate forms for each review.

EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW (if applicable)

Please refer to Evaluation Summary above.

Section 3. Detailed review

Reviewers are encouraged to provide the information below to the extent possible and use the comment section to explain the scope of their review.

1. USE OF PROCEEDS

Overall comment on section (if applicable):

The eligible categories for the use of proceeds – Energy Efficiency; Renewable Energy; Sustainable Transport; Sustainable Food, Agriculture, Forestry, Aquaculture and Fisheries; Resource Efficiency and Pollution Control; Sustainable Water; and Affordable Housing – are aligned with those recognized by the Green Bond Principles and Social Bond Principles. Barclays Bank PLC and its subsidiaries will only finance eligible green activities that comply with the sector criteria of the Climate Bonds Standard (CBI). Sustainalytics considers that investments in the eligible categories will lead to positive environmental or social impacts and advance the UN Sustainable Development Goals, specifically SDGs 1, 2, 3, 6, 7, 9, 10, 11, 12, 13, 14 and 15.

Use of proceeds categories as per GBP:

- | | |
|--|---|
| ☒ Renewable energy | ☒ Energy efficiency |
| ☒ Pollution prevention and control | ☒ Environmentally sustainable management of living natural resources and land use |
| ☐ Terrestrial and aquatic biodiversity conservation | ☒ Clean transportation |
| ☒ Sustainable water and wastewater management | ☐ Climate change adaptation |
| ☐ Eco-efficient and/or circular economy adapted products, production technologies and processes | ☐ Green buildings |
| ☐ Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBPs | ☐ Other (please specify): |

If applicable please specify the environmental taxonomy, if other than GBPs:

Use of proceeds categories as per SBP:

- | | |
|---|---|
| ☐ Affordable basic infrastructure | ☐ Access to essential services |
| ☒ Affordable housing | ☐ Employment generation (through SME financing and microfinance) |
| ☐ Food security | ☐ Socioeconomic advancement and empowerment |
| ☐ Unknown at issuance but currently expected to conform with SBP categories, or other eligible areas not yet stated in SBP | ☐ Other (please specify): |

If applicable please specify the social taxonomy, if other than SBP:

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (if applicable):

Barclays Bank PLC and its subsidiaries' ESG governance forums will evaluate, select, monitor and approve the eligible assets. Barclays Bank PLC and its subsidiaries' social and environmental impact assessment processes will be applicable to all project selection decisions. They will use separate registers to track eligible social assets and eligible green assets. Sustainalytics considers the project selection process to be in line with market practice.

Evaluation and selection

- | | |
|---|---|
| ☒ Credentials on the issuer's social and green objectives | ☒ Documented process to determine that projects fit within defined categories |
| ☒ Defined and transparent criteria for projects eligible for Sustainability Bond proceeds | ☒ Documented process to identify and manage potential ESG risks associated with the project |
| ☒ Summary criteria for project evaluation and selection publicly available | ☐ Other (please specify): |

Information on Responsibilities and Accountability

- | | |
|--|---|
| ☒ Evaluation / Selection criteria subject to external advice or verification | ☒ In-house assessment |
| ☐ Other (please specify): | |

3. MANAGEMENT OF PROCEEDS

Overall comment on section (if applicable):

Barclays Bank PLC and its subsidiaries' treasury or portfolio management departments will manage, track and allocate the proceeds to eligible assets. At the time of issuance, Barclays Bank PLC and its subsidiaries will allocate the net proceeds from the notes to refinance eligible assets. Barclays Bank PLC and its subsidiaries will update eligible asset balances monthly and repay maturing facilities or remove facilities that turn ineligible from the portfolio. Pending allocation, Barclays Bank PLC and its subsidiaries will invest unallocated proceeds in cash and short-term liquid investments. This is in line with market practice.

Tracking of proceeds:

- | |
|---|
| ☒ Sustainability Bond proceeds segregated or tracked by the issuer in an appropriate manner |
| ☒ Disclosure of intended types of temporary investment instruments for unallocated proceeds |
| ☐ Other (please specify): |

Additional disclosure:

- | | |
|---|---|
| ☐ Allocations to future investments only | ☒ Allocations to both existing and future investments |
|---|---|

- | | |
|--|--|
| ☐ Allocation to individual disbursements | ☒ Allocation to a portfolio of disbursements |
| ☐ Disclosure of portfolio balance of unallocated proceeds | ☐ Other (please specify): |

4. REPORTING

Overall comment on section (if applicable):

Barclays Bank PLC and its subsidiaries commit to reporting on the allocation of proceeds on its website on an annual basis as long as the notes are outstanding. Additionally, Barclays Bank PLC and its subsidiaries commit to reporting on relevant impact metrics. Sustainalytics views the commitment to allocation and impact reporting to be aligned with market practice.

Use of proceeds reporting:

- | | |
|--|--|
| ☐ Project-by-project | ☒ On a project portfolio basis |
| ☐ Linkage to individual bond(s) | ☐ Other (please specify): |

Information reported:

- | | |
|---|---|
| ☒ Allocated amounts | ☐ Sustainability Bond financed share of total investment |
| ☐ Other (please specify): | |

Frequency:

- | | |
|--|--------------------------------------|
| ☒ Annual | ☐ Semi-annual |
| ☐ Other (please specify): | |

Impact reporting:

- | | |
|--|--|
| ☐ Project-by-project | ☒ On a project portfolio basis |
| ☐ Linkage to individual bond(s) | ☐ Other (please specify): |

Information reported (expected or ex-post):

- | | |
|--|--|
| ☐ GHG Emissions / Savings | ☒ Energy Savings |
| ☐ Decrease in water use | ☐ Number of beneficiaries |
| ☐ Target populations | ☒ Other ESG indicators (please specify): |

Frequency:

- | | |
|--|--------------------------------------|
| ☒ Annual | ☐ Semi-annual |
| ☐ Other (please specify): | |

Means of Disclosure

- | | |
|---|---|
| ☐ Information published in financial report | ☐ Information published in sustainability report |
| ☒ Information published in ad hoc documents | ☐ Other (please specify): |
| ☐ Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review): | |

Where appropriate, please specify name and date of publication in the useful links section.

USEFUL LINKS (e.g. to review provider methodology or credentials, to issuer's documentation, etc.)

SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE

Type(s) of Review provided:

- | | |
|---|--|
| ☒ Consultancy (incl. 2 nd opinion) | ☐ Certification |
| ☐ Verification / Audit | ☐ Rating |
| ☐ Other (please specify): | |

Review provider(s):

Date of publication:

ABOUT ROLE(S) OF REVIEW PROVIDERS AS DEFINED BY THE GBP AND THE SBP

- i. Second-Party Opinion: An institution with sustainability expertise that is independent from the issuer may provide a Second-Party Opinion. The institution should be independent from the issuer's adviser for its Sustainability Bond framework, or appropriate procedures such as information barriers will have been implemented within the institution to ensure the independence of the Second-Party Opinion. It normally entails an assessment of the alignment with the Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy, and/or processes relating to sustainability and an evaluation of the environmental and social features of the type of Projects intended for the Use of Proceeds.
- ii. Verification: An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or sustainability criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally or socially sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer's internal tracking method for use of proceeds, allocation of funds from Sustainability Bond proceeds, statement of environmental or social impact or alignment of reporting with the Principles may also be termed verification.
- iii. Certification: An issuer can have its Sustainability Bond or associated Sustainability Bond framework or Use of Proceeds certified against a recognised external sustainability standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.
- iv. Green, Social and Sustainability Bond Scoring/Rating: An issuer can have its Sustainability Bond, associated Sustainability Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialised research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental and/or social performance

data, process relative to the Principles, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material sustainability risks.

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For more information, visit www.sustainalytics.com

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