CBI Green Bond Database Methodology

Debt universe: *Labelled* green debt instruments

Screening reference: Climate Bonds Taxonomy as amended from time to time

Main database: CBI Green Bond Database

Additional database: CBI excluded bonds list

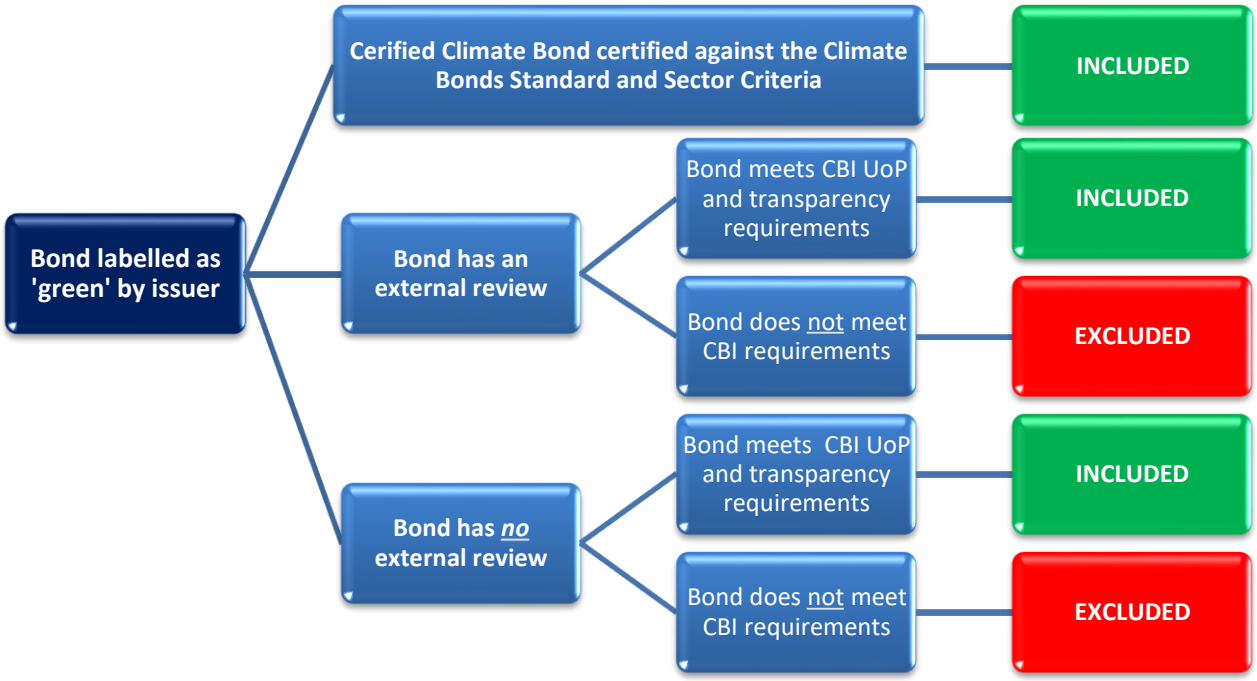
The Climate Bonds Initiative screens labelled green debt instruments by reference to the Climate Bonds Taxonomy to identify green bonds and loans as eligible for the CBI Green Bond Database. More detail on the screening approach and the database maintenance process is set out in this document.

While we commonly refer to debt instruments included in the CBI Green Bond Database as "green bonds", any debt format is acceptable, including but not limited to Schuldschein, sukuk, loans, medium term notes, debentures, retail bonds, securitisations, tranches in wider deals (ABS, MTN program, loan). In short, any debt structure which is asset-linked or asset-backed is eligible.

The three-step process to classify a green bond as eligible is as follows:

1. Identify green-themed, labelled bonds
2. Screen the projects or assets for alignment with the Climate Bonds Taxonomy
3. Evaluate the allocation of proceeds to aligned projects and assets

Summary of Climate Bonds Initiative's decision tree:



Glossary:

Certified Climate Bonds are verified by an approved verifier against Climate Bonds Sector Criteria and Certified under the Climate Bonds Standard. Loans and financing programs can also be Certified.

External review: Second party opinions on the issuer's green bond framework are most common. Other forms of external review are assurance letters confirming compliance of the green bond framework with the ICMA Green Bond Principles (GBP) or the LMA Green Loan Principles (GLP) and green bond ratings or assessments.

UoP: Use of proceeds

Green bond framework: any issuance framework which defines eligibility categories for use of proceeds and related reporting.

Climate Bonds Taxonomy

The Climate Bonds Taxonomy provides broad guidance for prospective green bond and climate bond issuers and investors. Guided by the Climate Science Advisory Panel, the aim of the taxonomy is to encourage common definitions across global markets, in a way that supports the growth of a cohesive thematic bond market.

The Climate Bonds Taxonomy consists of eight categories:

- Energy
- Transport
- Buildings
- Water management
- Waste management & pollution control
- Nature-based assets, including land use, agriculture & forestry
- Industry & energy-intensive commercial
- Information technology & communications (ICT)

Low carbon technologies included under the taxonomy evolve over time as science progresses and any updates will be reflected here: https://www.climatebonds.net/standard/taxonomy. Note that the diagram at this site also indicates where the Climate Bonds Initiative has developed and published sector-specific certification criteria, as well as the sectors for which science-based criteria are under development.

Climate Bonds Standard and Certification Scheme

The Climate Bonds Standard and Certification Scheme is a Fair Trade-like labelling scheme for bonds. Rigorous scientific criteria ensure that it is consistent with the 2°C warming limit set in the Paris Agreement. The scheme is used globally by bond issuers, governments, investors and the financial markets to prioritise investments which genuinely contribute to addressing climate change. Bonds Certified under the Climate Bonds Standard – Certified Climate Bonds – are automatically included in the CBI Green Bond Database.

The sector specific criteria are developed by dedicated working groups of technical and industry experts, coordinated by the Climate Bonds Standards team. The certification scheme and criteria development is overseen by a Climate Bonds Standard Board representing institutional investors and environmental NGOs. The Standard Board reports to the Governors of the Climate Bonds Initiative.

CBI Green Bond Database screening process

Identification of green themed, labelled bonds

The issuer of a green bond must declare that the bond is intended to be environmentally beneficial through labelling the bond. The most commonly used label is 'green', but other labels such as climate-awareness, climate, solar, renewable energy, energy efficiency, PACE, environmental, ESG, SDG and sustainability are also eligible.

The label should appear in a public document such as a press release, a green bond framework or review, the bond prospectus or by obtaining a green bond assessment, green evaluation or other green bond rating.

Screening for alignment with the Climate Bonds Taxonomy

Each bond is reviewed based on the green credentials of the use of proceeds. This may be earmarked proceeds for asset-linked, senior unsecured or secured bonds, projects funded by a project bond, or assets backing an ABS or other secured debt. The key is that the asset to be financed is green.

At issuance, the issuer must declare the eligible asset / project categories. Most issuers specifically link their deal and green bond framework to the GBP or GLP and obtain an external review to confirm compliance. However, compliance with the GBP or GLP does not automatically mean that the categories meet Climate Bonds database inclusion criteria. The GBP and GLP lists of eligible assets are indicative, whereas the Climate Bonds Taxonomy and the derived database inclusion criteria are asset-specific and exclude certain categories. The most significant exclusions are fossil fuel energy and any process, product, asset or improvement, which extends the life of fossil fuel assets. For instance, clean coal is excluded as are rail lines which transport mainly fossil fuels.

For ABS and other secured bonds the use of proceeds is fixed on issuance. For unsecured bonds, the initial Use of Proceeds allocation is often an estimate based on the categories listed in the green bond framework or otherwise disclosed in connection with the deal (e.g. a prospectus or press release).

Under GBP and GLP issuers commit to providing post-issuance reporting on the allocation of proceeds. This reporting can be used to adjust or re-classify issues. Climate Bonds undertook the first study on Use of Proceeds reporting in 2017 and intends to continue monitoring reporting.

In some cases allocations are reported in integrated financial reports, GHG emissions reports and other sustainability reports published by issuers. These can also be used to adjust or re-classify bonds post issuance.

Evaluating the use of proceeds

Climate Bonds' focus is on climate change mitigation and adaptation. Only bonds which are expected to allocate at least 95% of proceeds to aligned green assets are included in the CBI Green Bond Database. If more than 5% of the proceeds are used or expected to be used for working capital, social assets / projects or assets that do not align to the Climate Bonds Taxonomy, the bond will not be eligible for inclusion. Importantly, lack of sufficient information to determine this also results in exclusion.

Inclusion in the CBI Green Bond Database

Climate Bonds' assessment is based on information available from the issuer's green bond framework, external reviews or certification-related verification as well as other sources such as bond prospectus, issuer website, corporate reporting, rating agencies and media coverage.

The methodology for inclusion in the CBI Green Bond Database is somewhat less stringent than the Certification Criteria, but is still aligned to the GBP, the Climate Bonds Taxonomy and the spirit of the scientific Sector Criteria. The methodology uses a simplified version of the Climate Bonds Taxonomy as reflected in the Appendix.

For borderline and/or complicated cases input from the Climate Bonds Standards team, and on occasion, external technical experts may be sought. This approach was adopted, for instance, in determining if NYK's first green bond should be included in the CBI Green Bond Database and the considerations were publicised in a Special briefing.

Pending

In some cases, the information available on the deal's use of proceeds is insufficient for an immediate decision as to whether the bond should be included or excluded. Such bonds are marked as "Pending" and further work is undertaken to obtain or clarify information.

This investigation process is carried out by the end of the next quarter, e.g. if the deal is marked pending in Q1, the investigation period ends at the end of Q2. If no further information is made available or the information obtained does not show alignment with the taxonomy, the bond is added to the Excluded Bonds list.

Exclusions

If the bond's use of proceeds is not aligned to the Climate Bonds Taxonomy, the bond is added to the CBI Excluded Bonds list. The same applies if more than 5% of bond proceeds are used or expected to be used for 'general corporate purposes', working capital, social assets / projects or assets that do not align to the Climate Bonds Taxonomy. Lack of sufficient information to determine the alignment of UoP also results in exclusion.

Excluded bonds are announced in Climate Bonds Market Blog, together with the reason for exclusion.

Re-classification

If a green bond is included but the issuer cannot fulfil the criteria at a later date or the proceeds are applied to "non-green" assets, it may be removed from the CBI Green Bond Database. Conversely, excluded bonds may be re-classified if satisfactory information is provided or obtained at a later date and this new information confirms alignment to the Climate Bonds Taxonomy.

A change from excluded to included may also occur if we change the methodology to expand the list of acceptable approaches to labelling. For instance, in 2018 we started treating green bond ratings/evaluations as equivalent to labelling and included retroactively a number of bonds that had been excluded for lack of labelling. Likewise, in 2018

we formally started accepting ABS deals identified as solar or PACE as being labelling equivalents to 'green'. Updates of this nature are most likely to occur in connection with our annual and semi-annual Green Bond Market Highlights report.

Excluded deals may also be included retroactively to reflect the evolution of scientific thinking and internal guidance on asset categories. For instance, historical guidance from our Standards team was to exclude large-scale hydro. However, the new taxonomy focuses on power density. Consequently, some previously excluded deals may be included. Changes of this type are likely to occur after an update to the taxonomy and/or the publication of new sector-specific certification criteria.

However, deals will not be excluded simply because Climate Bonds tightens the screening criteria levels used in this methodology. Changes to the screening criteria will be pre-announced in the Climate Bonds Market Blog.

Re-classifications are announced in Climate Bonds Market Blog, noting the reason for the change of status of the bond. Classification changes are pre-announced to Data Partners, such as index providers.

Appendix. Climate Bonds Green Definitions

SECTOR	ENERGY
Solar	• Offshore solar power generation • Onshore photovoltaic and concentrated solar heat & power generation, provided there is not substantial backup generation from fossil fuel sources • Infrastructure, manufacturing (supply chain), storage and transmission
Wind	• Offshore wind power generation • Onshore wind farms, provided there is not substantial backup generation from fossil fuel sources • Infrastructure, manufacturing (supply chain), storage and transmission
Geothermal	• Geothermal electricity (further considerations apply for Turkey, New Zealand, the USA and Canada) • Infrastructure, manufacturing (supply chain), storage and transmission
Bioenergy	• Facilities producing biofuel, biomass, biogas from wood industry by-products, waste or sustainable feed stocks (preferably certified under schemes such as RSB, RTRS, FSC and ISCC Plus or national schemes such as EU RED, UK Renewable Obligation) • Power generation facilities: biomass power station (unless coal-firing), heating, cooling and combined heat and power (CHP) facilities • Infrastructure, manufacturing (supply chain), storage and transmission
Hydro	• Run-of-river, existing reservoirs and new reservoirs with high density (preferably for >5W/sqm or higher), unless controversial due to loss of habitat/biodiversity and/or displacement of people or with weak social / environmental impact assessment (if publicly available) • Infrastructure, manufacturing (supply chain), storage and transmission
Marine renewables	• Offshore wind and solar • Tidal, wave and other energy generation facilities using ocean thermals, salinity, gradients, etc. • Infrastructure, manufacturing (supply chain), storage and transmission
Transmission, distribution and storage	• Transmission and grid infrastructure required to integrate renewable energy or energy efficiency systems and their load-balancing: e.g. overhead transmission lines, conductors, insulators, towers and infrastructure assets such as buildings, fences, earth mats and busbars • District heating network fed primarily by renewable energy

	• Products such as smart systems/meters, smart grid, off-grid power units, home storage batteries, supercapacitors, hydro and thermal heat storage, voltage regulation equipment, transformers and switchgear • Large scale energy storage facilities, batteries, capacitators, compressed air and flywheel plants, supercapacitors and related manufacturing
Nuclear	• Power plants, dedicated supporting infrastructure and uranium mining
	Assets need further review
Geothermal	• Geothermal electricity in Turkey, New Zealand, US and Canada, where gas emission levels from extraction typically require further assessment • Geothermal heat pump (GHP) technology
Bioenergy	• Biofuel blending facilities • Coal-firing biomass power stations as GHG emissions relative to fossil fuel alternatives needs to be considered
Hydro	• Controversial projects for which additional analysis of environmental/social impact assessment is required
Marine	• Marine heating and cooling facilities using ocean thermals as the level of reduction in gCO2e/kWh compared to fossil fuel alternatives needs to be considered
	Ineligible assets
Fossil fuels	• Coal/oil/gas with or without carbon capture and storage (CCS) • **Coal/oil/gas powered combined heat and power (CHP)** • **Coal/oil/gas mining/extraction, refining, processing and associated supply chain infrastructure**
Energy efficiency	• Efficiency upgrades to GHG intensive power sources – e.g. clean coal technology • Energy savings in fossil fuel extraction activities and anything that helps to extend the life of fossil fuel usage
Transmission	• District heating fed primarily by non-renewable energy sources
Bioenergy	• Supply chain facilities related to blending facilities
Onshore solar & wind	• Onshore solar and wind heat & power generation facilities **if there is substantial backup power generation from fossil fuel sources**
SECTOR	**BUILDINGS**
Buildings and built environment	• Commercial, residential and special-purpose public properties (e.g. hospitals, schools, etc.) upgrades/retrofits aiming for a minimum of 20% energy performance improvements and/or improving emissions performance • Buildings meeting industry certification schemes such as EDGE, LEED, Miljöbyggnad, BREEAM, DGNB, ENERGY STAR • Properties achieving a minimum of 20% further reduction in energy use compared to the baseline requirements under the domestic building regulations/code • Properties in the top EPC ratings categories • Assets and urban policies/regulations directed at climate change mitigation such as streetlighting upgrades, passive heating/cooling, car-free areas
Technology, products, systems and manufacturing for building efficiency	• Products meeting industry certification schemes such as ENERGY STAR • Manufacturing energy efficient components (e.g. LED lighting) • Systems which increase overall energy efficiency, e.g. district heating • Low carbon and alternative building materials such as alternatives to cement and concrete

	• Building, maintaining or upgrading utility tunnels for cables and pipes which improve resource and energy efficiency
SECTOR	**TRANSPORT**
Private, public and freight land transport	• Electric vehicles (EVs), hybrids and hydrogen fuel cell vehicles • Bicycle and public walking infrastructure and schemes • Passenger trains; urban rail systems such as metro, light rail, cable cars, trams • Freight railways and rolling stock, provided <50% fossil fuel transport • Public transport buses and coaches, bus rapid transit (BRT) • Manufacturing (supply chain), dedicated infrastructure, energy efficient products (e.g. batteries, charging/filling stations, etc)
Passenger and cargo water transport	• Electric powered or otherwise low-carbon (sustainable biofuel, ammonia, hydrogen, etc) • Supporting infrastructure
Passenger and cargo aircraft and aviation	• Electric powered or otherwise low-carbon (sustainable biofuel, hydrogen, solar, etc) • Supporting infrastructure
	Assets need further review
Shipping	• LNG vessels factoring in design and operational energy efficiency improvements, level of GHG and total emission reductions, etc.
Transport logistics	• Sorting centres, intermodal freight facilities, ports, smart freight logistics, multi-modal logistics hubs
	Ineligible assets
Personal vehicles (cars)	• ICE and CNG passenger vehicles and supply chain (components)
Rail	• Rail lines/operators when fossil fuels account for more than 50% of freight
Shipping	• Oil tankers and other vessels transporting solely fossil fuels • Heavy fuel vessels
Aviation	• Aircraft using fossil fuel
Infrastructure	• New roads, road bridges, road upgrades, parking facilities, fossil fuel filling stations and other assets which prolong the life and/or increases the ease-of-use of fossil-fuel powered transport
SECTOR	**WATER & WASTEWATER**
Water storage and management	• Rainwater harvesting systems, aquatic ecosystems (lakes, wetlands), aquifer storage, groundwater recharge systems, water distribution systems, infiltration ponds • Gravity fed canal systems, hydrological restoration • Water-efficient agricultural irrigation systems and water saving technology
Defences and storm water management	• Flood, sea and drought defences including pumping stations, levees, gates, ecological retention systems, snowpack management, wetland storage • Rainwater harvesting, constructed ecological retention ponds, erosion control systems, groundwater recharge, erosion control systems
Water treatment	• Water treatment including desalination plants using renewable energy • Water recycling, wastewater treatment, sewage, manure and slurry treatment • Natural filtration systems such as wetlands, watersheds, forests and settling systems
Ecological restoration	• Erosion control, hydrological restoration

SECTOR	WASTE MANAGEMENT & POLLUTION CONTROL
Circular economy activities	• Recycling of metals, plastics, glass and paper and facilities for collection, sorting and material recovery • Facilities for the re-use of materials (recycled products, refurbishing, repairing, etc) • Anaerobic digestion facilities to produce biogas from green waste and composting facilities • Waste to energy plants for solid waste incineration with energy capture, pyrolysis / gasification, plasma converter, anaerobic digestion
Waste disposal	• Closed landfill facilities with gas capture
Pollution control	• Carbon capture and storage (excluded for fossil fuel energy)
	Ineligible assets
Waste management	• Collection of waste that is going to landfill and where it is not specified if the waste is to be recycled or sent to landfill • Landfill without gas capture or if gas capture is used to extend landfill's life • Waste incineration without energy capture
SECTOR	**NATURE BASED ASSETS**
Agriculture	• Sustainable agriculture that reduces carbon and GHG emissions, increases soil based carbon sequestration and improves climate resilience • Reduced water and energy use, verifiable reduced fertilizer use • Supply systems for seed production, distribution and access • Storage and primary processing for agricultural produce • Equipment, intelligent management systems and other technologies to manage sustainable agriculture
Commercial forestry	• Natural forests and forest plantations certified under internationally accepted sustainability standards such as FSC or PEFC for large-scale forestry and otherwise sustainably managed forests for small-scale forestry • Production facilities using energy and water efficient pulping processes, biorefineries, use of recyclates • Storage and primary processing for sustainable forestry produce • Equipment, intelligent management systems and other technologies to manage sustainable forestry
Natural ecosystems	• Natural ecosystem land (managed and unmanaged) • Land remediation, afforestation, re-vegetation which creates habitat appropriate for the location • Reduced emissions from deforestation and degradation (REDD) • Wild fisheries and sustainable fish farms, machinery and equipment to sustainably harvest fisheries as well as related primary processing and storage facilities • Equipment, intelligent management systems and other technologies to manage ecosystems
Climate resilient infra-structure	• Infrastructure to protect against increased rainfall, coastal infrastructure
	Assets need further review
Green spaces	• Landscaping of recreational parks/gardens, golf courses and similar green spaces are unlikely to be included unless carbon sequestration impact is significant and/or their preservation/creation protects biodiversity
	Ineligible assets

Agriculture	• All agricultural production on peatland
Forestry	• Timber harvesting except for certified, e.g. FSC or PEFC, and otherwise sustainably managed forests • All commercial forestry on peatland
SECTOR	**INDUSTRY & ENERGY-INTENSIVE COMMERCIAL**
Energy efficient products and processes	• Facilities dedicated to manufacturing energy efficient components such as motors and automation systems • Facilities dedicated to manufacturing energy efficient products such as household appliances and equipment (particularly white goods) • Eco-efficiency improvements/cleaner production such as for cement (e.g. reduced clinker content), iron, steel, chemicals and glass production • Related supply chain manufacturing facilities
Non-energy GHG reductions	• Carbon scrubbers • Carbon capture and storage products (except for fossil fuel energy)
SECTOR	**INFORMATION TECHNOLOGY AND COMMUNICATIONS**
Broadband networks, IT solutions	• Teleconferencing, telecommuting software and services • Fibre optic and cable networks and exchanges • Renewable energy-powered data centres and/or with low to zero energy usage for cooling
Power management	• Infrastructure, software and hardware for remote and in situ power management, such load balancing, energy monitoring and automatic switching of power systems
	Assets need further review
Broadband networks, IT solutions	• Data centres not powered by renewable energy or cooled naturally and related hardware and supply chain manufacturing facilities