



iBoxx Global Green, Social & Sustainability Bonds Index Guide

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1 iBoxx Global Green, Social & Sustainability Bonds Index

The iBoxx Global Green, Social & Sustainability Bonds Index is designed to reflect the performance of Green, Social and Sustainability bonds globally that are denominated in USD, EUR, GBP and CAD. The index rules aim to offer a broad coverage of the global Green, Social and Sustainability bond universe whilst upholding minimum standards of investability and liquidity. The index is an integral part of the global range of iBoxx index families including sustainable indices, which provides the marketplace with accurate and objective benchmarks with which to assess the performance of underlying bond markets and investments.

The iBoxx Global Green, Social & Sustainability Bonds Index family is further broken down into iBoxx Green Bond index as well as other sub-indices based on currency, sector, rating and maturity. The iBoxx Global Green, Social & Sustainability Bonds Index uses multi-source prices as described in the document *Markit iBoxx Pricing Rules* publicly available on www.ihsmarkit.com.

The index leverages external, independent data sources for determining 'Green', 'Social' and 'Sustainability' bond classification. This data is provided by Climate Bonds Initiative ("CBI"), Environmental Finance and IHS Markit Reference Data and contains self-labelled as well as other eligible Green, Social, and Sustainability bond issuances. The index considers bonds broadly based on the International Capital Market Association's (ICMA) voluntary Green Bond Principles (GBP), Social Bond Principles (SBP) and Sustainability Bond Guidelines (SBG) for self-labelling.

This document covers the index selection rules and calculation methodology.

2 Bond selection rules

2.1 Bond type

Only bonds whose cash flows can be determined in advance are eligible for the indices. The issuer's domicile is not relevant.

For all eligible currencies, bonds with the following characteristics are included:

- Fixed coupon bonds (plain vanilla bonds)
- Event-driven bonds with step-up and step-down coupons, such as rating- or tax-driven bonds
- Subordinated financial debt with a contingent conversion feature at the point of non-viability, in line with the capital adequacy requirements of Basel III

For all eligible currencies, bonds with the following characteristics are excluded:

- Floating Rate Notes
- T-Bills and other money market instruments
- Subordinated financial debt with mandatory contingent conversion features that are based on an observable trigger or with any conversion options before the first call date is ineligible for the index
- Optionally and mandatory convertible bonds from non-financial issuers
- Bonds cum or ex-warrant
- Private placements
- Retail bonds

For retail bonds and private placements, publicly available information is not always conclusive and the classification of a bond as a retail bond or private placement will be made at IHS Markit's discretion based on the information available at the time of determination. IHS Markit may consult with the specific Index Advisory Committees to review potential retail bonds or private placements. Partial private placements where information on the specific amounts publicly placed and privately placed can be ascertained are included in the indices with the amount publicly placed. If the amount publicly placed is below the cut-off, the bond is not included in the indices.

Any bond classified as retail or private placement is added to the list of excluded private placement and retail bonds. The list is published on www.ihsmarkit.com for future reference and to ensure decisions' consistency.

In instances where a new bond type is not specifically excluded or included according to the published index rules, IHS Markit will analyze the features of such securities in line with the principles set out in section 2 of this guide. IHS Markit may consult the specific Index Advisory Committees. Any decision as to the eligibility or ineligibility of a new bond type will be published and the index rules will be updated accordingly

2.1.1 EUR & GBP denominated bonds

The following applies to EUR and GBP denominated bonds in addition to the above.

Bonds with the following characteristics are included:

- Zero coupon bonds
- Step-up bonds step-up callable bonds with European options
- Dated and undated callable subordinated corporate bonds, including fixed-to-floating rate bonds
- Soft bullet bonds. These are bonds with an initial fixed-coupon period, and a variable or step-up coupon period thereafter, that are structured so that they are expected to be redeemed at the end of the initial period
- Bonds with call options where the first and subsequent call dates are on a date when the bond is otherwise no longer eligible for the index, i.e. bonds with American call options within the last year prior to maturity
- Subordinated financial fixed-to-floating rate bonds with a reset date on or after the first call date
- Senior bank bonds with call options where the first call date is 25 months or less prior to final maturity

The following bond types are specifically excluded from the indices:

- Sinking funds and amortizing bonds
- Other bonds with American call options, and undated bonds
- Collateralized Debt Obligations (CDOs) and bonds collateralized by CDOs
- Bonds with differences between accrual and coupon payment periods and monthly-paying bonds

2.1.2 USD & CAD denominated bonds

The following applies to USD and CAD denominated bonds in addition to the above.

Bonds with the following characteristics are included:

- Callable and Puttable bonds
- Amortizing bonds and sinking funds with fixed sinking schedules
- Fixed-to-floaters
 - > Hybrid bank/insurance capital bonds
 - > Senior bonds issued by banks with a call option up to 2 years prior to maturity
 - > Undated fixed – to floaters
- Perpetual Bonds of all types.
- Secured bonds
 - > Secured bonds issued by insurance companies
 - > First mortgaged bonds/ first priority security interest
 - > Covered bonds
 - > Secured bonds issued by an SPV with known cash-flows

The following bond types are specifically excluded:

- Zero coupon bonds and zero-coupon step-up bonds
- Dated fixed to floater bonds issued by non-financial issuers
- Dated fixed to floater senior bonds issued by non-banking financial issuers
- Inflation and other index-linked bonds
- Bonds whose complete coupons are paid at maturity, as they are similar to zero-coupon bonds with only one cash flow
- New bonds entering the index that have already been called prior to rebalancing
- For liquidity reasons, the following market types are excluded from the bond universe:
 - > Municipal Bonds
 - > 144As
 - > Brady Bonds
 - > Restructured sovereign and sub-sovereign debt

2.2 Credit rating

All bonds in the index must have an iBoxx Rating of investment grade or sub-investment grade. Ratings from the following three credit rating agencies are considered for the calculation of the iBoxx Rating:

- Fitch Ratings
- Moody's Investor Service
- S&P Global Ratings

Investment grade is defined as BBB- or higher from Fitch Ratings and S&P Global Ratings and Baa3 or higher from Moody's Investor Service.

Sub-investment grade is defined as BB+ or lower from Fitch Ratings or S&P Global Ratings and Ba1 or lower from Moody's Investor Service, but not in default.

If a bond is rated by more than one of the above agencies, then the iBoxx rating is the average of the provided ratings. The rating is consolidated to the nearest rating grade. Rating notches are not used. For more information on how the average rating is determined, please refer to the iBoxx Rating Methodology document. The methodology can be found on www.ihsmarket.com under Methodology.

Issuer ratings or MTN program ratings are not taken into account.

If a new tranche of a bond is not rated, the rating of its parent bond applies. The exception is for domestic sovereign bonds which use issuer ratings based on long term local currency sovereign debt rating, such as

- US treasuries
- UK Gilts
- Eurozone governments' bonds
- Canadian treasury bonds

All ratings must be above D (default). If a bond is distressed or rated “defaulted” by any agency (D by Fitch or S&P, or no longer rated by Moody’s), if it trades flat or a debt restructuring has been offered to the bondholders, the bond is no longer eligible for the Index and is removed at the next rebalancing.

In case of an ID change or exchange of a 144A version/ Regulation S offerings into a registered bond the ratings from the 144A bond/ Regulation S offerings are also used for the registered bond.

2.3 Time to maturity

Bonds in the indices are held until maturity.

Bonds must have a minimum time to maturity at issuance of 18 months. Extendable bonds whose maturities are extended also require a minimum time to maturity of 18 months from the extension.

Bonds are assigned to a maturity bucket according to their time to maturity. For non-hybrid capital bonds, the call/put schedule is not used to determine the time-to-maturity of the bond, regardless whether the call/put has been announced.

2.4 Amount outstanding

All bonds require a minimum amount outstanding of greater than or equal to 250 million (for CAD bonds 300 million) in their respective local currency as of the bond selection cut-off date to be eligible for the indices.

IHS Markit considers changes to the outstanding face value of a bond as a result of partial or full buybacks or increases, provided that IHS Markit is aware of such changes as of the bond selection cutoff date.

In the case of 144A securities that are registered as global securities, the remaining amount of the 144A version and the registered version are recombined if the bond is not exchanged in full.

3 Classification

3.1 Green, Social & Sustainability bond classification

The index leverages external, independent data sources for determining 'Green', 'Social' and 'Sustainability' bond classification. This data and is provided by Climate Bonds Initiative ("CBI"), Environmental Finance and IHS Markit Reference Data and contains self-labelled as well as other eligible Green, Social, and Sustainability bond issuances. The index considers bonds broadly based on the International Capital Market Association's (ICMA) voluntary Green Bond Principles (GBP), Social Bond Principles (SBP) and Sustainability Bond Guidelines (SBG) for self-labelling.

Green Bonds leverage data provided by Climate Bonds Initiative ("CBI"), Environmental Finance and IHS Markit Reference Data Bonds need to be labelled and relevant information has to be available on the use of proceeds for their classification to be considered for the index. All bonds need to have a clear commitment for the use of proceeds. Data is further verified based on publicly available prospectus and other relevant documents. Bonds for which the classification is pending or unlabeled corporate bonds are excluded from the index.

Social and Sustainability Bonds are based on information provided by Environmental Finance and IHS Markit Reference Data. Data is further verified based on publicly available prospectus and other relevant documents

ICMA is a regulatory authority and trade association that serves European capital markets to promote greater transparency, efficiency and harmony. The association developed two individual pillars of Green and Social Principles (Sustainability Bonds are bonds where proceeds are exclusively applied to finance a combination of both Green and Social projects) in order to promote corporate disclosure and support the flow of capital allocation towards environmentally and socially responsible economic activities.

Each pillar provides voluntary transparency, disclosure and harmonized impact reporting guidelines, as well as classification systems and an external review framework for evaluating bonds' use of proceeds to determine a bond's profile and ultimately, how a bond should be mapped.

This approach to determining sustainable credibility is bond-specific and a defined project approach rather than one based on an issuer's historical profile of economic engagements.

3.2 Bond classification

All bonds are classified based on the principal activities of the issuer and the main sources of the cash flows used to pay coupons and redemptions. In addition, a bond's specific collateral type or legal provisions are evaluated. Hence, it is possible that bonds issued from different subsidiaries of the same issuer carry different classifications.

The issuer classification is reviewed regularly based on updated information received by IHS Markit, and status changes are included in the indices at the next rebalancing if necessary.

Where the sector classification of a specific entity is not very clear due to the diversified business of the entity, decision will be made at IHS Markit's discretion. IHS Markit will assign the IHS Markit classification according to its evaluation of the business risk presented in the security prospectus and annual reports, if available. IHS Markit will also compare the classification to peers in the potential sectors and may consult with the Index Advisory Committees. Membership lists including classification are published on the FTP server and in the *Indices* section on www.ihsmarkit.com for registered users.

3.2.1 Treasuries, Sovereigns and Gilts

Bonds issued by central governments or member countries of the Eurozone and are denominated in their respective domestic currencies such as CAD, EUR, GBP or USD.

3.2.2 Sub-sovereigns

Bonds issued by entities with explicit or implicit government backing due to legal provision, letters of comfort or the public service nature of their business. The issuer requires a strong central government ownership/relationship if its bonds are not explicitly guaranteed by the central government.

The five main sub-sovereign sectors are:

- **Agencies:** Bonds issued by entities whose major business is to fulfill a government-sponsored role to provide public, non-competitive services (e.g. Kreditanstalt fuer Wiederaufbau). Often, such business scope is defined by a specific law, or the issuer is explicitly backed by the government
- **Supranationals:** Bonds issued by supranational entities, i.e. entities that are owned by more than one central government (e.g. World Bank, EIB)
- **Public Banks:** Bonds issued by publicly owned and backed banks that provide regular commercial banking services (e.g. NV Bank Nederlandse Gemeenten)
- **Regions:** Bonds issued by local governments (e.g. Isle of Man)
- **Other Sub-Sovereigns:** All remaining bonds considered sub-sovereign. There are three main types of bonds and issuers falling into this category:
 - > *Non-Financials:* An issuer from a non-financial sector with **explicit** or **strong implicit** debt guarantee from the state, whose credit rating is closely correlated with the sovereign rating and expresses a strong credit uplift based on a high level of support from the government. iBoxx by IHS Markit would expect the issuer credit rating reflected as **no worse than on par or 2 notches below** the sovereign rating. A '**strong implicit guarantee**' is defined as an issuer being **100%** owned by the state or public-sector, and their debt being consolidated into state public debt, or the issuer has preexisting access to government financing, or funding

derived from tax revenues. The local regulatory and political framework will be considered when assessing the classification of state-owned companies.

- > *Guaranteed Financials*: A specific bond issued by a private sector financial institution that is irrevocably guaranteed by a government. Most of these bonds are issued under programs set-up after the 2008 financial crisis
- > Bonds issued by unguaranteed institutions with an irrevocable and explicit guarantee by a central government that covers amount and timeliness of all interest and principal payments until the maturity of the bond

3.2.3 Collateralized

There are three main categories: covered bonds, securitized bonds and other collateralized bonds.

3.2.3.1 Covered bonds

Bonds which are secured by a general pool of assets in case the issuer becomes insolvent, in particular bonds conforming to the criteria specified in UCITS 22.4 or similar directives, e.g. CAD III. In addition, bonds with a structure affording an equivalent risk and credit profile that are considered by the market as covered bonds are also included in the indices.

3.2.3.2 Securitized bonds

Currently, the following bond types are eligible for the indices:

- **Asset backed securities (ABS)**: Bonds secured against specific assets or receivables
- **Housing Associations**: Bonds that are secured against property and issued by non-profit making organizations that provide low-cost social housing
- **Mortgage backed securities (MBS)**: Bonds secured against residential or commercial mortgages
- **Whole Business Securitized**: Bonds secured against cash flows from a whole business segment. However, WBS bonds from utilities or infrastructure providers are classified as 'Corporates'. These issuers operate in highly regulated environments where their debt behaves more like corporate debt rather than securitized debt.

3.2.3.3 Other collateralized bonds

Collateralized bonds not falling into the above two categories.

3.2.4 Corporates

Bonds issued by public or private corporations. Bonds secured by a 'floating charge' over some or all assets of the issuer are considered corporate bonds. Corporate bonds are further classified into Financials and Non-Financials bonds and then into their multiple-level economic sectors, according to the issuer's business scope. The category Guaranteed & Wrapped is added under Financials for corporate bonds whose timely coupon and/or principal payments are guaranteed by a non-affiliated insurer or through a letter of credit from a non-affiliated bank. Each bond in the index is assigned to one of the following sectors.

Table 1: Overview of Markit iBoxx Corporates Sectors

	Economic Sector	Market Sector	Market Sub-Sector	
Financials	Core Financials	Banks	Banks	
		Insurance	Life Insurance	
			Nonlife Insurance	
	Financial Services	Financial Services	General Financial	
			Equity Investment Instruments	
			Nonequity Investment Instruments	
		Guaranteed & Wrapped	*	
	Real Estate	Real Estate	Real Estate Investment & Services	
			Real Estate Investment Trusts	
	Non-Financials	Oil & Gas	Oil & Gas	Oil & Gas Producers
Oil Equipment / Services & Distribution				
Alternative Energy				
Basic Materials		Chemicals	Chemicals	
			Basic Resources	Industrial Metals
				Mining
		Forestry & Paper		
Industrials		Construction & Materials	Construction & Materials	Construction & Materials
				Aerospace & Defense
		Industrial Goods & Services	Electronic & Electrical Equipment	
			General Industrials	
			Industrial Engineering	
			Industrial Transportation	
			Support Services	
Consumer Goods		Automobiles & Parts	Automobiles & Parts	Automobiles & Parts
				Beverages
			Food Producers	
		Personal & Household Goods	Personal & Household Goods	Household Goods
				Personal Goods
				Tobacco
		Leisure Goods		
Health Care	Health Care	Pharmaceuticals & Biotechnology		

		Health Care Equipment & Services
Consumer Services	Retail	Food & Drug Retailers
		General Retailers
	Media	Media
	Travel & Leisure	Travel & Leisure
Telecommunications	Telecommunications	Integrated Telecommunications
		Wireless Telecommunications
Utilities	Utilities	Electricity
		Gas / Water & Multiutilities
Technology	Technology	Software & IT Services
		Technology Hardware & Equipment

3.2.5 Additional classification

Corporate debt is further classified into senior and subordinated debt. Bank senior debt structure additionally differentiates between Bail-in and Preferred bonds. The Bail-in classification captures all senior notes which are subject to write-down or conversion into a subordinated instrument on the occurrence of a resolution event, as well as senior bank debt issued by bank holding companies.

Hybrid capital issued by banking and insurance institutions is further detailed into the respective tiers of subordination.

The market information on the tier of subordination for insurance capital is often less standardized and clear than the equivalent issues by banks. In these cases, the classification is based on the maturity, coupon payment and deferral provisions of the bond from the offering circulars of the bonds. The table below displays the seniority classification of debt issued by both financial and non-financial sectors.

Table 2: Overview of seniority levels

Market Sector	Seniority Level 1	Seniority Level 2	Seniority Level 3	
Bank	SEN	Preferred	*	
		Bail-in	*	
	SUB	T2 (post-Jan '13 issuances)	T2 callable	
			T2 non-callable	
		T2 (pre-Jan '13 issuances)	LT2 callable	
			LT2 non-callable	
			UT2	
		T1	T1 step	
T1 non-step				
Insurance	SEN	*	*	

Market Sector	Seniority Level 1	Seniority Level 2	Seniority Level 3
	SUB	T3	*
		T2 dated	T2 dated callable
			T2 dated non-callable
		T2 perpetual	*
		T1	*
Other sectors	SEN	*	*
	SUB	Other	Hybrid**
			Non-hybrid

** Bonds will be required to fulfil the following criteria to be considered hybrids:

- Subordinated
- Deferrable coupons
- First non-call period \geq 5 years
- Either perpetual or 'long-dated', where 'long-dated' is defined as $>$ 25 years of the time to maturity at issuance

4 Index Calculation

4.1 Static data

Information used in the index calculation is sourced from offering circulars and checked against standard data providers.

4.2 Bond prices

For more details please refer to the *Markit iBoxx Pricing Rules* document, available in the *Methodology* section of the iBoxx Documentation page on www.ihsmarkit.com.

4.3 Rebalancing process

The iBoxx Global Green, Social & Sustainability Bonds Index is rebalanced monthly on the last business day of the month after the close of business. Changes to outstanding amounts are only taken into account if they are publicly known three business days before the end of the month. Changes in ratings are only taken into account if they are publicly known two business days before the end of the month. New bonds issued are taken into account if they are publicly known to settle until the last calendar day of the month, inclusive, and if their rating has become known at least three trading days before the end of the month.

Three business days before the end of each month, a membership list with final amount outstanding for each bond is published.

Two business days before the end of each month, the rating information for the constituents is updated and the list is adjusted for all rating changes which are known to have taken place two trading days before the end of the month.

On the last business day of each month, IHS Markit publishes the final membership with closing prices for the bonds, and various bonds analytics based on the index prices of the bonds.

4.4 Index data

The calculation of the indices is based on bid prices. New securities are included in the indices at their respective ask prices when they enter the index family. In the event that no price can be established for a particular security, the index continues to be calculated based on the last available price. This might be the case in periods of market stress, or disruption as well as in illiquid or fragmented markets. If the required inputs become impossible to obtain, IHS Markit may consult market participants prior to the next rebalancing date. Decisions are made publicly available on a timely basis and IHS Markit may refer back to previous cases.

A sub-index is calculated if at least one bond matches all inclusion criteria. If no more bonds qualify for an index, then its level remains constant. If at least one bond becomes available again, the index calculation resumes and is chained to the last calculated level. All bonds are assigned to sub-indices according to their classification. The assignment of a bond to a certain maturity bucket is based on its expected remaining life. All bonds remain in their maturity bucket for the entire month.

The rebalancing takes place after close of market on the last trading day of a rebalancing month.

4.5 Index calculus

For specific index formulas please refer to the *Markit iBoxx Bond Index Calculus* document, available in the *Methodology* section of the iBoxx Documentation page on www.ihsmarket.com.

4.6 Index and analytics weights

The iBoxx Global Green, Social & Sustainability Bonds Index is market-value-weighted. The amount outstanding of a bond is only adjusted within the rebalancing process.

All calculations are based on the adjusted amount outstanding that reflects the outstanding bond notional at the last rebalancing. The bond prices relate to the nominal value of 100.

4.7 Treatment of the special intra-month events

Data for the application of corporate actions in the indices may not be fully or timely available at all times, e.g. the final call prices for make-whole calls or the actual pay-in-kind percentage for PIK-payment options. In such cases, IHS Markit will estimate the approximate value based on the available data at the time of calculation.

4.7.1 Full redemptions: exercised calls, puts and buybacks

If a bond is fully redeemed intra-month, the bond effectively ceases to exist. In all calculations, the redeemed bond is treated as cash based on the last price, the call price or repurchase price, as applicable. The redemption factor, redemption and the redemption price are used to treat these events in the index and analytics calculation. In addition, the clean price of the bond is set to the redemption price, and the interest accrued until the redemption date is treated as an irregular coupon payment.

4.7.2 Funged bonds

Bonds may be issued in several tranches. The different tranches are initially legally separate and therefore trade independently for a certain period. On and after the funge date, the tranches will be combined into one bond, i.e. the parent tranche will contain the original security, as well as the additional notional(s) from the new tranche(s). After the funge date, the prices for both the securities are the same, because they constitute one uniform bond. This is reflected in the indices as follows:

4.7.2.1 Parent and new tranche are both index constituents

- After the funge date, the price from the parent tranche is used for the funged tranche; no price for the funged bond
- Funged tranche leaves the index at the next rebalancing and parent amount outstanding increases accordingly

4.7.2.2 Parent is an index constituent, but the new tranche is not

- No special intra-month treatment necessary
- Parent amount outstanding increases at the next rebalancing

4.7.2.3 Parent is not an index constituent but the new tranche is

- No special intra-month treatment necessary
- Funged tranche leaves the index; parent tranche enters the index at the next rebalancing

4.7.3 Bonds trading flat of accrued

If a bond is identified as trading flat of accrued, the accrued interest of the bond is set to 0 in the total return index calculation and is excluded from the calculation of all bond and index analytical values.

Bonds will be considered trading flat of accrued in any of the following situations:

- a bond has been assigned a default rating and/or
- issuer has announced a failure to pay a coupon and/or
- issuer has announced an intention not to make a payment on an upcoming coupon (grace period).

4.7.4 Multi-coupon bonds

Some bonds have pre-defined coupon changes that lead to a change in the annual coupon over the life of the bond. In all instances, the coupon change must be a fixed amount on top of a fixed coupon, i.e. floating coupon bonds are not eligible for the indices. The two main categories of bonds are step-up bonds and event-driven bonds.

- **Step-up bonds:** These are bonds with a pre-defined coupon schedule that cannot change during the life of the bond. The coupon schedule is used in all bond calculations.
- **Event-driven bonds:** These are bonds whose coupon may change upon occurrence (or non-occurrence) of pre-specified events, such as rating changes, e.g. rating-driven bonds, failure to register (register-driven bonds), or failure to complete a merger (merger-driven bonds). In the calculation of the indices and the analytics, the coupon schedule as of the calculation date is used. That is to say, any events occurring after the calculation date are ignored in the determination of the applicable coupon schedule. *Example of an event-driven bond:* A bond's rating changes on 31 December 2003 from A- to BBB+ and the coupon steps up from 6% to 6.25% from 1 March 2004 onward. The coupon dates are 1 October and 1 April each year. The correct coupon schedule for the bond and index calculations is date dependent. The index calculation on 20 December 2003 uses the 6% coupon for the whole life of the bond, while the calculation on 31 January 2004 uses a 6% coupon for the current coupon period to 29 February 2004, and a 6.25% coupon for all

later interest payments. The index calculation on 20 March uses a 6% coupon until 29 February, a 6.25% coupon for the remainder of the current coupon period and a 6.25% coupon for all future coupon payments. The index calculation after 1 April uses a 6.25% coupon.

4.7.5 Ex-dividend conventions

Some markets have ex-dividend conventions. Ex-dividend means that the next coupon is detached from the bond several days in advance of the coupon payment date. The date on which the next coupon is detached is the ex-dividend date and the period between the ex-dividend date and the coupon payment date is the ex-dividend period. If a bond is in the ex-dividend period, the next coupon payment will not be paid to a buyer of this bond, but will be paid to the original bond holder.

The indices and analytics calculations take ex-dividend conventions into account. During the ex-dividend period, the accrued interest of the bond is negative, while the next coupon payment is held separate in the variable coupon adjustment. If the bond enters the index during the ex-dividend period, then the next coupon payment and the coupon adjustment will not accrue to the index. However, if the bond was already in the index, the next coupon payment needs to be included in the total return calculations. This is controlled via the ex-dividend indicator which is 0 if the bond enters the index during the current ex-dividend period and 1 if not. The same treatment is also applied to all analytics calculation, i.e. the first cash flow is excluded from the calculations if the bond enters during the current ex-dividend period.

4.8 Index history

The Index history starts on 31 Dec 2013. The indices has a base value of 100 on that date.

4.9 Settlement conventions

All iBovx indices are calculated using the assumption of T+0 settlement days.

4.10 FX rates

FX spot rates are sourced from WM/Reuters. The index calculation uses the FX rates from 4pm London time. If the rebalancing day is a non-business day the 4pm London time FX rates from the previous business day are used.

4.11 Calendar

IHS Markit publishes an index calculation calendar in the *iBovx Calendars* section of the iBovx Documentation page on www.ihsmarkit.com. This calendar provides an overview of the index calculation holidays of the iBovx bond index families in a given year.

4.12 Publication of the Index

All indices are calculated as end-of-day and distributed once daily after 4 p.m. EST. The indices are calculated on the basis of end-of-day prices every Monday to Friday. In addition, the indices is calculated with the previous trading day's closing prices on the last calendar day of each month if that day is not a trading day, as well as on common bank holidays as published in the iBoxx index calculation calendar. Trading days and bank holidays are defined in the iBoxx USD Index calculation calendar.

Closing index values and key statistics are published at the end of each business day in the indices section on www.ihsmarkit.com for registered users. IHS Markit publishes an index calculation calendar which is available in the indices section on www.ihsmarkit.com under iBoxx Calendar. Index data and bond price information is also available from the main information vendors.

4.13 Data publication and access

The table below summarizes the publication of iBoxx Global Green, Social & Sustainability Bonds Index in the *Indices* section of the IHS Markit website www.ihsmarkit.com for registered users and on the FTP server.

Table 3: File types, frequency and access

Frequency	File Type	Access
Daily	Underlying file – Bond level	IHS Markit FTP Server
	Indices file – Index level	IHS Markit FTP Server / IHS Markit website / Bloomberg for index levels only
Daily from the 10th calendar day of the month (or the next index publication day if the 10th calendar day falls on a non-business day)	Forwards	IHS Markit FTP Server
Monthly	End of Month Components	IHS Markit FTP Server / IHS Markit website
	XREF files	IHS Markit FTP Server

The index identifiers for the publication channels are:

Table 4: Index identifiers

Index Name	Version	SEDOL	ISIN	Ticker
iBxx Global Green, Social & Sustainability Bonds (CAD Hedged)	CPI	BL08Q80	GB00BL08Q806	IBXXGSSO
	TRI	BL08PC7	GB00BL08PC75	IBXXGSSG
iBxx Global Green, Social & Sustainability Bonds (CAD Unhedged)	CPI	BL08Q91	GB00BL08Q913	IBXXGSSP
	TRI	BL08PD8	GB00BL08PD82	IBXXGSSH
iBxx Global Green, Social & Sustainability Bonds (EUR Hedged)	CPI	BL08Q46	GB00BL08Q467	IBXXGSSK
	TRI	BL08P72	GB00BL08P725	IBXXGSSC
iBxx Global Green, Social & Sustainability Bonds (EUR Unhedged)	CPI	BL08Q57	GB00BL08Q574	IBXXGSSL
	TRI	BL08P83	GB00BL08P832	IBXXGSSD
iBxx Global Green, Social & Sustainability Bonds (GBP Hedged)	CPI	BL08Q68	GB00BL08Q681	IBXXGSSM
	TRI	BL08P94	GB00BL08P949	IBXXGSSE
iBxx Global Green, Social & Sustainability Bonds (GBP Unhedged)	CPI	BL08Q79	GB00BL08Q798	IBXXGSSN
	TRI	BL08PB6	GB00BL08PB68	IBXXGSSF
iBxx Global Green, Social & Sustainability Bonds (USD Hedged)	CPI	BL08Q24	GB00BL08Q244	IBXXGSSI
	TRI	BL08P50	GB00BL08P501	IBXXGSSA
iBxx Global Green, Social & Sustainability Bonds (USD Unhedged)	CPI	BL08Q35	GB00BL08Q350	IBXXGSSJ
	TRI	BL08P61	GB00BL08P618	IBXXGSSB
iBxx Global Green Bonds (USD Unhedged)	CPI	BL08QH9	GB00BL08QH95	IBXXGOU4
	TRI	BL08PL6	GB00BL08PL66	IBXXGOU2
iBxx Global Green Bonds (USD Hedged)	CPI	BL08QG8	GB00BL08QG88	IBXXGOU3
	TRI	BL08PK5	GB00BL08PK59	IBXXGOU1
iBxx Global Green Bonds (GBP Unhedged)	CPI	BL08QM4	GB00BL08QM49	IBXXGOG4
	TRI	BL08PQ1	GB00BL08PQ12	IBXXGOG2
iBxx Global Green Bonds (GBP Hedged)	CPI	BL08QL3	GB00BL08QL32	IBXXGOG3
	TRI	BL08PP0	GB00BL08PP05	IBXXGOG1
iBxx Global Green Bonds (EUR Unhedged)	CPI	BL08QK2	GB00BL08QK25	IBXXGOE4
	TRI	BL08PN8	GB00BL08PN80	IBXXGOE2
iBxx Global Green Bonds (EUR Hedged)	CPI	BL08QJ1	GB00BL08QJ10	IBXXGOE3
	TRI	BL08PM7	GB00BL08PM73	IBXXGOE1
iBxx Global Green Bonds (CAD Unhedged)	CPI	BL08QP7	GB00BL08QP79	IBXXGOC4
	TRI	BL08PS3	GB00BL08PS36	IBXXGOC2
iBxx Global Green Bonds (CAD Hedged)	CPI	BL08QN5	GB00BL08QN55	IBXXGOC3
	TRI	BL08PR2	GB00BL08PR29	IBXXGOC1

4.14 Annual index review

The rules for the index are reviewed at least once per year during the public annual index review consultation process to ensure that the index provides a balanced representation of the EUR denominated debt market. Decisions made following feedback from market participants, the annual index review and External Advisory Committees (EAC) will be published on www.ihsmarket.com shortly after the EAC meetings have been held. The publication will contain a detailed overview and timelines for implementation of any rules changes.

5 Summary of key ESG factors

Explanation of how ESG factors are reflected in the key elements of the benchmark methodology

Item 1: Benchmark administrator	IHS Markit Benchmark Administration Ltd. ('IMBA UK')
Item 2: Type of benchmark	Fixed income and sovereign debt
Item 3: Name of benchmark or family of benchmarks	iBoxx Global Green, Social & Sustainability Bonds
Item 4: Does the benchmark methodology take into account ESG factors	Yes
Item 5a: List of Environmental factors considered	<p>Inclusion driven by exposure to the following factors:</p> <p>Use of proceeds for Green Bonds have to be aligned with the ICMA Green Bond principles. Evidence is based on self-certification</p>
Item 5b: List of Social factors considered	<p>Inclusion driven by exposure to the following factors:</p> <p>Use of proceeds for Social Bonds have to be aligned with the ICMA Social Bond Principles. Evidence is based on self-certification</p>
Item 5c: List of Governance factors considered	N/A
Item 5d: List of any other overall ESG factors	N/A
Item 6: Hyperlink to ESG factors information	iBoxx Global Green, Social & Sustainability Bonds Index
Item 7a(i): Source of input	Data is sourced externally from Climate Bonds Initiative ("CBI"), Environmental Finance and IHS Markit Reference Data, supplemented with professional expertise and bond prospectuses.
Item 7a(ii): Data input	<p>Climate Bonds Initiative ("CBI"), Environmental Finance and IHS Markit Reference Data relies on a proprietary methodology informed by a range of data sources.</p> <p>CBI track all self-labelled green bonds, subject to screening criteria explained in CBI Green Bond Database Methodology. All data is collected by the Climate Bonds Initiative and is filtered to include only:</p> <ul style="list-style-type: none"> • bonds with at least 95% use of proceeds financing or refinancing green/environmental projects - social bonds are not included • bonds which are broadly aligned with the Climate Bonds Taxonomy. This means that, for example, bonds financing so-called "clean coal" are excluded. <p>Environmental Finance's database tracks self-labelled green, social and sustainability bond. The dataset includes bonds where the issuer and/or lead manager explicitly states that they are green, social or sustainability focused.</p> <p>IHS Markit Reference Data offers detailed reference data for bonds which enables a comprehensive view of assets from issuance to maturity. Self-labelled green, social and</p>

	sustainability bonds are captured based on information provided in the bond prospectus.
Item 7b: Verification and quality of data	For further information on Environmental Finance research and methodology refer https://www.bonddata.org/policy/methodology.html . The CBI Green Bond Database screening process is available at https://www.climatebonds.net/files/files/Taxonomy/CBI_Taxonomy_Tables-08A%20%281%29.pdf For further information on IHS Markit Reference Data refer to https://ihsmarkit.com/products/pricing-and-reference-data.html .
Item 7c: International reference standards	ICMA Green Bond Principles (GBP), Social Bond Principles (SBP) and Sustainability Bond Guidelines (SBG)
Item 8a: Information updated on	21 December 2021
Item 8b: Reason for update	Additional data source

6 Governance and regulatory compliance

IHS Markit Benchmark Administration Limited (IMBA UK) is the Index Administrator of iBxxx indices. Information on IMBA UK's governance and compliance approach can be found [here](#). This document covers:

- Governance arrangements, including external committees
- Input data integrity
- Conflicts of interest management
- Market disruption and Force Majeure
- Methodology changes and cessations
- Complaints
- Errors and restatements
- Reporting of infringements and misconduct
- Methodology reviews
- Business continuity

More details about IMBA UK can be found on the [Administrator's website](#).

7 Changes to iBovx Global Green, Social & Sustainability Bonds Index

Date	Change
1 Sep 2021	Update of monthly forward start date from 12th calendar day to 10th calendar day
6 Jul 2021	Details around additional data source updated in the 'Summary of key ESG factors' section
7 Jul 2020	<ul style="list-style-type: none">• Launch of iBovx Global Green, Social & Sustainability Bonds Index

8 Further information

Glossary of key terms

The Markit iBoxx Glossary document of key terms is available in the *Methodology* section of the iBoxx *Documentation* page on www.ihsmarket.com.

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