Bloomberg MSCI Global Aggregate Sustainable and Green Bond SRI Index

The Bloomberg MSCI Global Aggregate Sustainable and Green Bond SRI Index is a subset of the Bloomberg Global Aggregate Index. It is designed to track global investment grade debt from twenty-eight local currency markets. This multi-currency benchmark includes treasury, government-related, corporate, and securitized fixed-rate bonds from both developed and emerging market issuers. Prior to 2018, the index followed the rules of the flagship Bloomberg Global Aggregate Index. From January, 2018, the index includes issuers with MSCI ESG Ratings of BBB or higher and negatively screens issuers that are involved in certain business activities that are restricted because they are inconsistent with certain values-based business involvement criteria. Issuers with a "red" MSCI ESG Controversy Score, and corporate issuers that are not covered by MSCI ESG Controversies, are also excluded. The index is tilted to allocate at least 10% of the market value to securities classified as Green Bonds and allocate the remaining percentage towards non-Green Bond eligible Global Aggregate securities. From February 2023, the aggregate exposure of bonds in the index that do not quality as having Sustainable Exposure is capped at 90% to ensure the minimum weight applicable to the portion of the index comprised of securities qualifying as having Sustainable Exposure is set to a minimum threshold of 10%. The index was created in June 2021, with index history backfilled to January 1, 2016.

Rules for Inclusion: Fixed Income Criteria

Sector

Treasury, corporate government-related, and securitized bonds are included.

Eligible Currencies

- Principal and coupon must be denominated in one of the following eligible currencies:
  - Americas: CAD, CLP, COP, MXN, PEN, USD
  - EMEA: CHF, CZK, DKK, EUR, GBP, HUF, ILS, NOK, PLN, RON, RUB, SEK
  - Asian-Pacific: AUD, CNY, HKD, IDR, JPY, KRW, MYR, NZD, SGD, THB
- Eligible currencies will not necessarily have debt included in the index if no securities satisfy the inclusion rules
- New currency inclusion is reviewed annually through the index governance process. To be considered for inclusion, new currency candidates must be rated investment grade and sufficiently tradable, convertible and hedgeable for international investors.

Quality

Securities must be rated investment grade (Baa3/BBB-/BBB- or higher) using the middle rating of Moody's, S&P and Fitch; when a rating from only two agencies is available, the lower is used; when only one agency rates a bond, that rating is used. In cases where explicit bond-level ratings may not be available, other sources may be used to classify securities by credit quality:

- Local currency treasury and hard currency sovereign issuers are classified using the middle issuer-level local currency and hard currency debt ratings from each agency for all outstanding bonds, even if bond-level ratings are available.
- Expected ratings at issuance may be used to ensure timely index inclusion or to properly classify split-rated issuers.
- Unrated securities may use an issuer rating for index classification purposes if available. Unrated subordinated securities are included if a subordinated issuer rating is available.

- German Pfandbriefe are assigned ratings that are one full rating category above the issuer's unsecured debt.
- For the Canadian Dollar market, DBRS is considered in addition to Moody's, S&P, and Fitch. When all four ratings agencies are available, the highest and lowest ratings are removed and the lower of the two remaining is used.

Amount Outstanding

Fixed minimum issue sizes are set for all local currency minimums:

- 150mn: CAD
- 200mn: GBP
- 300mn: USD (excluding MBS, ABS, and CMBS)*, EUR, CHF, AUD
- 500mn: NZD, SGD
- lbn: RON, PEN, USD MBS pass-throughs
- 25mn: USD ABS and CMBS tranches*
- 2bn: DKK, NOK, PLN, ILS, HKD, MYR
- 2.5bn: SEK
- 5bn: CNY**
- 10bn: MXN, CZK, THB
- 20bn: RUB
- 35bn: JPY
- 100bn: CLP
- 200bn: HUF
- 500bn: KRW
- 1trn: COP
- 2trn: IDR

** As of April 1, 2017, ABS and CMBS tranches between $25-$300mn became index-eligible.*
*** The minimum amount outstanding required for CNY-denominated treasury and policy bank debt is CNY 5bn. The total amount of index-eligible CNY debt will be phased into the Global Aggregate Index at 5% increments over a 20 month period starting April 1, 2019 until November 2020 when 100% index-eligible debt will be reflected in the index.*

Coupon

- Fixed-rate coupon
- Callable fixed-to-floating rate bonds are eligible during their fixed-rate term only.
- Bonds with a step-up coupon that changes according to a predetermined schedule are eligible.

Maturity

- At least one year until final maturity, regardless of optionality.
- MBS must have a weighted average maturity of at least one year. CMBS and ABS must have a remaining average life of at least one year.
- Bonds that convert from fixed to floating rate, including fixed-to-float perpetuals, will exit the index before converting to floating-rate. Fixed-rate perpetual bonds are not included.

Taxability

- Only fully taxable issues are eligible.
- Build America Bonds (BABs) with the tax credit to the issuer eligible; those with tax credits issued to Investors are considered tax exempt.

- Dividend Received Deduction (DRD) and Qualified Dividend Income (QDI) eligible securities are excluded.

Market of Issue

Publicly issued in the global and regional markets.

Seniority of Debt

Senior and subordinated issues are included.

Security Types

Included

- Bullet, putable, sinkable/amortizing and callable bonds
- Original issue zero coupon bonds
- Taxable municipal securities, including Build America Bonds (BABs)
- Fixed-rate and fixed-to-float (including fixed-to-variable) capital securities
- Bonds issued through underwritten MTN programs
- Enhanced equipment trust certificates (EETC)
- Certificates of deposit
- Loan participation notes
- US Agency CMBS (as of July 1, 2014)
- Malaysian government Sukuk (as of April 1, 2015)

Excluded

- Contingent capital securities, including traditional CoCos and contingent write-down securities, with explicit capital ratio or solvency/balance sheet-based triggers
- Bonds with equity type features (e.g., warrants, convertibles, preferreds, DRD/QDI-eligible issues)
- Inflation-linked bonds, floating-rate issues
- Private placements, retail bonds
- Tax-exempt municipal securities
- Sinkable Russian OFZ bonds issued prior to 2009
- USD25/USD50 par bonds
- Fixed-rate perpetuals
- Structured notes, pass-through certificates
- Non-ERISA eligible CMBS
- US agency MBS hybrid ARMs
- Formosa bonds (as of April 1, 2017)
- Illiquid securities with no available pricing

Environment, Social and Governance (ESG) Rules

MSCI ESG Rating

Starting from January 2018 for non-Green bonds:

- Securities from sectors with ratings (Corporate, Covered Bonds, Agency and Supranationals) must have an MSCI ESG Rating of BBB or higher.
- Unrated issuers from sectors with ratings (Corporate, Covered Bonds, Agency and Supranationals) are excluded.
- Prior to April 2021, ratings were applied at the ticker level. Every bond within the same ticker had the same MSCI ESG Rating.
- MSCI ESG Ratings are generally updated annually but may be reviewed more frequently as needed.

Business Involvement Screens

From January 2018, for the non-Green bond component of the index, the index excludes Corporate, Covered Bond, Agency and Supranational issuers involved in the following business lines/activities as per the standard Bloomberg MSCI SRI screen:

- Alcohol
- Tobacco
- Gambling
- Adult Entertainment
- Genetically Modified Organisms (GMO)
- Nuclear Power
- Nuclear Weapons
- Civilian Firearms
- Controversial Weapons
  - Cluster Munitions
  - Landmines
  - Depleted Uranium
  - Biological/Chemical
  - Blinding Lasers
  - Non-Detectable Fragments
  - Incendiary
- Thermal Coal
- Unconventional Oil & Gas
- Generation of Thermal Coal
- Fossil Fuel Reserves

From April 2023, the SRI screen defined above is applied to Local Authority issuers that are covered by MSCI BISR Research.

Involvement is defined for each restricted activity and may be based on % of revenue, total revenue, or any tie regardless of revenue (see Figures 7-8 on pages 14-16 for the standard screen threshold in ESG Methodology).

From June 2022, the index additionally excludes issuers that derive greater than or equal to 10% of revenue from business activities related to:

- Weapons systems/components/support systems/services

From January 2018, the Green Bond component of the index also applies the SRI screen defined above except for the screens applicable to Nuclear Power, Thermal Coal, Fossil Fuel Reserves and Unconventional Oil & Gas. Additionally, the Green Bond components exclude issuers that derive greater than or equal to 10% of revenue from business activities related to:

- Weapons systems/components/support systems/services

MSCI ESG Controversies Starting from January 2018, the index excludes any issuer with a "Red" MSCI ESG Controversies score (equal to 0), and corporate issuers that are not covered by MSCI's ESG Controversy research. MSCI ESG Controversies measure an Issuer's involvement in major ESG controversies and how well they adhere to international norms and principles (see page 11 of ESG Methodology).

UN Sanctions From January 2018, the index excludes sovereign issuers that are subject to UNSC Trade Sanctions.

MSCI Sustainable Exposure An issuer qualifies as having Sustainable Exposure if it meets all the following conditions:

- MSCI ESG Rating of BB or higher. The condition is not met if the issuer is not covered by MSCI ESG Ratings; and
- MSCI ESG Controversies Score of 2 or higher. The condition is not met if the issuer is not covered by MSCI ESG Controversy research; and

At least one of the following conditions is met:

- Derives 20% or more aggregate revenue from any of the thirteen social and environmental impact categories of Sustainable Impact Metrics (including nutrition, sanitation, major diseases treatment, SME finance, education, connectivity, affordable real estate, alternative energy, energy efficiency, green building, pollution prevention, sustainable agriculture, and sustainable water); or
- Has one or more active carbon emissions reduction target(s) approved by the Science Based Targets Initiative (SBTi); and-

The issuer is not flagged by the following business involvement criteria:

- Has any tie to Controversial Weapons (cluster munitions, landmines, depleted uranium, biological/chemical weapons, blinding lasers, non-detectable fragments, and incendiary weapons); or
- Derives 1% or more revenue (either reported or estimated) from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties; or
- Manufactures tobacco products, such as cigars, blunts, cigarettes, e-cigarettes, inhalers, beedis, kreteks, smokeless tobacco, snuff, snus, dissolvable and chewing tobacco; or
- Derives 5% or more aggregate revenue from the production, distribution, retail, supply and licensing of tobacco-related products.

If an issuer does not meet the above conditions, but has on issue a Green Bond, the Green Bond qualifies as having Sustainable Exposure only if it meets the following condition:

- Bond is assessed as a Green Bond as per the MSCI ESG Research's Green Bond assessment framework; and
- Issuer is classified as Corporate by the Bloomberg Fixed Income Classification System (BCLASS 1) and has an MSCI ESG Controversies Score of 1 or higher; or

Issuer is non-Corporate

Taxonomy: Green Bond Qualification and Classification

Overview

- Green bonds are fixed income securities in which the proceeds will be exclusively and formally applied to projects or activities that promote climate or other environmental sustainability purposes through their use of proceeds.
- For the Bloomberg MSCI Global Green Bond Index, securities are independently evaluated by MSCI ESG Research along four dimensions to determine whether they should be classified as a green bond. These eligibility criteria reflect themes articulated in the Green Bond Principles and require commitments about a bond's:
  - Stated use of proceeds;
  - Process for green project evaluation and selection;
  - Process for management of proceeds; and
  - Commitment to ongoing reporting of the environmental performance of the use of proceeds.
- Both self-labeled green bonds and unlabeled bonds will be evaluated using these criteria for potential index inclusion. So long as projects fall within an eligible MSCI ESG Research green bond category and there is sufficient transparency on the use of proceeds, a bond will be considered for the index even if it is not explicitly marketed as green.

Meeting all four criteria is required for bonds issued after the publication of the Green Bond Principles in 2014. Green bonds issued prior to 2014 that are widely accepted by investors as green bonds may still qualify for the index, even if all four principles are not satisfied, since no formal guidelines were available to issuers at the time of issuance.

Stated Use of Proceeds

- Use of proceeds and project bonds are considered eligible if the use of proceeds falls within at least one of six eligible environmental categories defined by MSCI ESG Research (alternative energy, energy efficiency, pollution prevention and control, sustainable water, green building, and climate adaption). In cases where project categories do not overlap entirely, MSCI ESG Research will consider bonds eligible if at least 90% of the projected use of proceeds falls within eligible categories.
- Until Dec 1, 2019, general purpose bonds were considered eligible if the issuer was considered pure-play. A pure-play issuer is defined as a legal entity with greater than 90% of activities (as measured by revenues) within one or more of the eligible environmental categories, except where proceeds are explicitly used to finance another company's operations (e.g., through payment of a dividend to a non-pure-play parent company). Post Dec 1, 2019, general purpose bonds by pure-play issuers need to meet all the four principles of the Bloomberg MSCI Green Bond Index in order to be eligible for the Index. General purpose bonds by pure-play issuers that were a part of the Index prior to Dec 1, 2019 have been grandfathered in the Index.
- The six eligible environmental categories defined by MSCI ESG Research are listed below.
  - Alternative Energy
  - Energy Efficiency
  - Pollution Prevention and Control
  - Sustainable Water
  - Green Building
  - Climate Adaptation
- These categories are not mutually exclusive – a bond may fall into one or more of the categories.

Other environmental activities that do not fit into these categories, including sustainable forestry/afforestation may also be candidates for inclusion based on evaluations by MSCI ESG Research.

Process for Green Project Selection

- Bonds are considered eligible if the issuer clearly delineates the specific criteria and process for determining eligible projects or investments in the bond prospectus or supporting documentation (e.g., green bond supplement, website, investor presentation).
- Project criteria must outline either specific projects or the specific categories of activities to be financed. Examples of eligible criteria include "Alta Wind acquisition" or "installation of wind turbines, production of photovoltaic cells, and rehabilitation of municipal water infrastructure to reduce waste water discharge." Examples of non-eligible criteria include "green initiatives and other projects that contribute to environmental sustainability" without further definition.

A second-party opinion is not sufficient in the absence of clearly defined processes and criteria for project selection.

Management of Proceeds

- A formal process to ring-fence net proceeds to the eligible use of proceeds must be disclosed in the bond prospectus or supporting documentation (as defined above). Eligible mechanisms to ring-fence net proceeds include:
  - Direct recourse to eligible revenues or assets (e.g., a green securitized bond, green project bond, or green revenue bond);
  - Creation of a separate legal entity;

- Creation of a sub-portfolio linked to the issuer's investment operations for eligible projects;
- Other auditable mechanism whereby the balance of tracked proceeds is reduced periodically by amounts matching investments made in eligible projects during that period.

Third-party verification by an external auditor is preferred but not required.

Ongoing Reporting

- At issuance, issuers of index eligible green bonds must either report on projects financed by the bonds' proceeds, or commit to doing so within one year. This reporting obligation will continue until bond proceeds have been fully dispersed or for the life of the bond, as circumstances necessitate. For reporting to be considered eligible, it must include one or more of the following:
    - A list of specific projects/investments, including amount disbursed to each individual project;
    - Aggregate project/investment categories, including amount disbursed to each project type;
    - Quantitative or qualitative reporting on the environmental impact of the project pool (e.g., greenhouse gas emissions savings, reduction in water consumption, increased energy efficiency per unit of output, etc.).
- MSCI ESG Research reserves an additional three months beyond the 12-month deadline to review an issuer's green bond report. This allows time for the green bond report to be located and contact to be made with the issuer in case any questions or issues are raised.
- If an issuer has not published a report within 15 months of issuance, or 15 months of the prior use of proceeds report, it will be flagged as "On Watch" in the next monthly green bond technical note, with details provided in the note regarding the timing and process for removal of the bond from the index.

If the issuer has not published a report within 18 months from issuance or the last annual report, its bond(s) will be removed from the index upon the next index rebalance. Furthermore, the bond(s) will be considered permanently ineligible for the index.

Rebalancing Rules

Sustainable Exposure Methodology

The market value of bonds in the index that do not quality as having Sustainable Exposure in the uncapped index is limited to 90%. The excess market value over the 90% cap will be redistributed on a pro rata basis to bonds in the index qualifying as having Sustainable Exposure. For example, if bonds in the index that do not qualify as having Sustainable Exposure represents 91% of the uncapped index, then 1% of the index's market value will be redistributed to each bond qualifying as having Sustainable Exposure on a pro rata basis. The Sustainable Exposure cap is applied each month as the index is rebalanced.

Rebalancing of the Index

Starting from January 2018, Index is composed of two sub-components: securities classified as Green Bonds, and securities not classified as Green Bonds. The index's weights between the two components are designed such that there is a minimum 10% allocation to Green Bonds. The tilt toward Green Bonds is defined as: minimum weight = max (10%, 2 x base market value weight).

- The index is rebalanced such that it follows the currency, sector, and maturity composition of the Global Aggregate Index. The Global Aggregate Index is divided into 84 buckets, based on a combination of currency, sector and maturity as of the previous month-end. The breakdowns include: 7 currency partitions (USD, EUR, GBP, JPY, CAD, CNY, and one partition for the remaining currencies), three BCLASS 1 sectors (Corporate, Securitized, Treasury + Government-Related), and four maturity partitions (0-5, 5-10, 10-15, and 15+). The index's weights are distributed such that each of the 84 buckets has the same market value percentage weight as the Global Aggregate index, after the application of the "minimum weight" criteria applied to Green Bonds.
- These bucket weights are calculated as of the prior month-end and applied to the Projected Universe of the Global Aggregate Sustainable and Green Bond SRI Index in the current month.

The weights then remain fixed in the Returns Universe for the duration of the next month until the next rebalance.

- Prior to January 2018, the index followed the rules of the standard Global Aggregate Index.

Note: The currency, sector, and maturity neutrality described above may not hold if the Sustainable Exposure capping methodology results in the need to re-weight index components.

Frequency

For each index, Bloomberg maintains two universes of securities: the Returns (Backward) and the Projected (Forward) Universes. The composition of the Returns Universe is rebalanced at each month-end and represents the fixed set of bonds on which index returns are calculated for the next month. The Projected Universe is a forward-looking projection that changes daily to reflect issues dropping out of and entering the index but is not used for return calculations. On the last business day of the month (the rebalancing date), the composition of the latest Projected Universe becomes the Returns Universe for the following month.

- The formal list of green bonds evaluated and identified by MSCI ESG Research is updated on the 25th calendar day of each month. MSCI evaluations must be completed by the evaluation date to qualify for inclusion at the next index rebalancing.
- The Bloomberg MSCI Global Aggregate Sustainable and Green Bond SRI Index is rebalanced on the last business day of each month. New issues will not be added to the Projected Universe until after the Green Bond Evaluation Date.

Index Changes

During the month, indicative changes to securities (credit rating change, sector reclassification, amount outstanding changes, corporate actions, and ticker changes) are reflected daily in the Projected and Returns Universe of the index. These changes may cause bonds to enter or fall out of the Projected Universe of the index on a daily basis, but will affect the composition of the Returns Universe at month-end only, when the index is next rebalanced.

Reinvestment of Cash Flows

Intra-month cash flows from interest and principal payments contribute to monthly index returns but are not reinvested at a short-term reinvestment rate between rebalance dates. At each rebalancing, cash is effectively reinvested into the Returns Universe for the following month so that index results over two or more months reflect monthly compounding.

New Issues

Qualifying securities issued, but not necessarily settled on or before the month-end rebalancing date, qualify for inclusion in the following month's index if the required security reference information and pricing are readily available.

Pricing and Related Issues

Sources & Frequency

All index-eligible bonds are priced on a daily basis by Bloomberg's evaluated pricing service, BVAL, except CHF-denominated bonds (which are priced by SIX) and JPY-denominated corporates (which are priced by JSDA).

Timing

Prices are snapped at the following times:

- North America currency bonds: 4 p.m. (New York time) starting from January 14, 2021 and onwards, and 3 p.m. (New York time) prior to January 14, 2021; 4 p.m. (Toronto time) for CAD-denominated securities.
- Pan-European currency bonds: 4:15 p.m. (London time); 4 p.m (London time) for CHF-denominated securities.
- Asian currency bonds: 5 p.m. (Sydney time) for AUD-denominated and NZD-denominated securities; 3 p.m. (Tokyo time) for JPY-denominated securities; 5 p.m. (Shanghai time) for CNY-denominated securities; 5 p.m. (Tokyo time) for all other securities.

- If the last business day of the month is a UK holiday and European markets remain open, European securities will use month-end prices.

Bid or Offer Side

Bonds in the index are priced on the bid side. The initial price for new corporate issues entering the index is the offer side; after the first month, the bid price is used. Japanese, Euro, and Sterling Treasury bonds use mid-prices.

Settlement Assumptions

T+1 calendar day settlement basis for all bonds. At month-end, settlement is assumed to be the first calendar day of the following month, even if the last business day is not the last day of the month, to allow for one full month of accrued interest to be calculated.

Verification

Daily price moves for each security are analyzed by the index pricing team to identify outliers. Index users may also challenge price levels, which are then reviewed and updated as needed.

Currency Hedging

Returns hedged to various currencies are published for multi-currency indices. The indices' FX hedging methodology takes rolling one-month forward contracts that are reset at the end of each month and hedges each non-reporting currency-denominated bond in the index into the reporting currency terms. No adjustment is made to the hedge during the month to account for price movements of constituent securities in the Returns Universe of the index.

Calendar

The Bloomberg MSCI Global Aggregate Sustainable and Green Bond SRI Bond Index is a global multi-currency index that is generated every business day of the year except for January 1, the only holiday common to all regional calendars. During holidays observed by local markets, the index will still be generated using prices from the previous business day. FX rates are updated daily using WM Reuters 4pm (London) rates. FX forwards are also sourced from WM Company.

Accessing Index Data

Bloomberg Terminal®

Bloomberg benchmarks are the global standard for capital markets investors.

- INDE<GO> - The Bloomberg Indices dashboard page, which contains daily, monthly, and year-to-date index returns for key indices from each index family as well as a link to index publications.
- IN<GO> - The Bloomberg Index Browser displays the latest performance results and statistics for the indices as well as history. IN presents the indices that make up Bloomberg's global, multi-asset class index families into a hierarchical view, facilitating navigation and comparisons. The "My Indices" tab allows a user to focus on a set of favorite indices.
- DES<GO> - The index description page provides transparency into an individual index including membership information, aggregated characteristics and returns, and historical performance.
- INP<GO> - The Bloomberg Indices Publications page, which includes methodologies, factsheets, monthly reports, announcements and technical notes. A user may also subscribe to index publications via the "Actions" button.
- PORT<GO> - Bloomberg's Portfolio & Risk Analytics solution includes tools to analyze the risk, return, and current structure of indices. Analyze the performance of a portfolio versus a benchmark or use models for performance attribution, tracking error analysis, value-at-risk, scenario analysis, and optimization.

Bloomberg Indices Website (www.bloomberg.com/indices)

The index website makes available limited index information including:

- Index methodology and factsheets
- Current performance numbers for select indices

Data Distribution

Index subscribers may choose to receive index data in files. Files may include:

- Index level and/or constituent level returns and characteristics for any indices
- Automatic delivery of files via email or SFTP following the completion of the index production process after market close
- Clients may receive standard files or may customize file contents
- Index data is also available via authorized redistributors

Index Ticker I36429US: Total Return USD Unhedged

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