

BLOOMBERG BARCLAYS MSCI US AGGREGATE ESG SELECT INDEX

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1 INTRODUCTION

Globally, institutional investors are increasingly seeking to invest in issuers that operate in accordance with their values and also exhibit leadership on Environmental, Social, and Governance (ESG) issues.

Examples of ESG leadership include issuers that demonstrate “best in class” management of ESG risks relative to its industry or peer group, and general adherence to established international normative standards of corporate behavior as represented by organizations such as the UN Global Compact.

Examples of values driven investing include the avoidance of issuers that sell products that have high negative social or environmental impact (for example alcohol, gambling, and tobacco).

The Bloomberg Barclays MSCI US Aggregate ESG Select Index is designed to represent the performance of bonds from issuers that exhibit ESG leadership, and exclude bonds from issuers that are inconsistent with specific values-based criteria.

2 MSCI ESG RESEARCH

The Bloomberg Barclays MSCI US Aggregate ESG Select Index uses issuer research provided by MSCI ESG Research. In particular, these indexes use the following three MSCI ESG Research products: MSCI ESG Ratings, MSCI ESG Controversies and MSCI Business Involvement Screening Research.

For details on MSCI ESG Research’s full suite of ESG products, please refer to: http://www.msci.com/products/esg/about_msci_esg_research.html

2.1 MSCI ESG RATINGS

MSCI ESG Ratings provides research, analysis and ratings of how well companies and other issuers with corporate-like¹ operations manage environmental, social and governance risks and opportunities.

MSCI ESG Ratings provides an overall issuer ESG rating - a seven point scale from 'AAA' to 'CCC'. In addition, the product provides scores and percentiles indicating how well an issuer manages each key issue relative to industry peers.

For more details on MSCI ESG Ratings, please refer to

https://www.msci.com/documents/1296102/1636401/MSCI_ESG_Ratings.pdf

2.2 MSCI ESG CONTROVERSIES

MSCI ESG Controversies provides assessments of controversies concerning the negative environmental, social, and/or governance impact of corporate and corporate-like issuers' operations, products and services. The evaluation framework used in MSCI ESG Controversies is designed to be consistent with international norms represented by the UN.

Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, and the UN Global Compact. MSCI ESG Controversies Score falls on a 0 - 10 scale, with "0" being the most severe controversy.

For more details on MSCI ESG Controversies, please refer to

<https://www.msci.com/documents/10199/acbe7c8a-a4e4-49de-9cf8-5e957245b86b>

2.3 MSCI ESG BUSINESS INVOLVEMENT SCREENING RESEARCH

MSCI ESG Business Involvement Screening Research (BISR) aims to enable institutional investors to manage environmental, social and governance (ESG) standards and restrictions reliably and efficiently.

For more details on MSCI ESG Business Involvement Screening Research, please refer to

http://www.msci.com/resources/factsheets/MSCI_ESG_BISR.pdf

¹ Includes government-owned agencies and local authorities with corporate-like operations, including but not limited to government-owned oil and gas companies (e.g. Pemex), government-owned banks and development banks (e.g. KfW), government-owned utilities (e.g. Eskom), etc. Government-owned agencies that operate as administrative bodies, based on MSCI ESG Research's methodology, are not assessed on ESG controversies.

3 CONSTRUCTING THE BLOOMBERG BARCLAYS MSCI US AGGREGATE ESG SELECT INDEX

Constructing the Bloomberg Barclays MSCI US Aggregate ESG Select Index involves the following steps:

- Defining the Parent Index;
- Defining the ESG Screened Universe;
- Defining the Carbon Screened Universe.

3.1 DEFINING THE PARENT INDEX

Following is the list of the parent indexes for respective Bloomberg Barclays MSCI US Aggregate ESG Select Indexes:

Custom ESG Index	Parent Index
Bloomberg Barclays MSCI US Aggregate ESG Select Index	Bloomberg Barclays US Aggregate Bond Index

For more information, please refer to <https://www.bloombergindices.com/bloomberg-barclays-indices-resources/>

3.2 ESG SCREENED UNIVERSE

The Bloomberg Barclays MSCI US Aggregate ESG Select Index uses issuer research provided by MSCI ESG Research to determine eligibility.

3.2.1 ESG CRITERIA

3.2.1.1 CONTROVERSY SCORE CRITERIA

The Bloomberg Barclays MSCI US Aggregate ESG Select Index uses MSCI ESG Controversies Scores to identify bonds issued by those companies and corporate-like entities that are involved in very serious controversies involving the environmental, social, or governance impact of their operations and/or products and services.

To be eligible for inclusion in the index, issuers must have an ESG controversy score of 2 (out of 10) or above. Issuers with an ESG controversy score of 1 could be included only if the issuer has an MSCI ESG Rating of BBB and has displayed a positive rating trend over its

previous rating in the most recent MSCI ESG Rating assessment or if it has an ESG rating above BBB (A, AA, AAA).

3.2.1.2 CONTROVERSIAL BUSINESS EXCLUSION SCREEN

The Bloomberg Barclays MSCI US Aggregate ESG Select Index uses MSCI ESG Business Involvement Screening Research to identify issuers that are involved in the following business activities. Issuers that meet the business involvement criteria are excluded from the Bloomberg Barclays MSCI US Aggregate ESG Select Index. Please refer to Appendix 1 for details on these criteria.

- Alcohol
- Tobacco
- Gambling
- Nuclear Power
- Weapons and Firearms

3.2.1.3 MSCI ESG RATING CRITERIA

- Excludes issuers with an MSCI ESG Rating of BB or lower using the MSCI ESG Rating or MSCI Government Rating model
- MSCI ESG Ratings are available for Treasury, government-related, corporate, and covered bond issuers. They are not applied to Mortgage Backed Securities (MBS), Asset Backed Securities (ABS), and Commercial Mortgage Backed Securities (CMBS).
- Ratings are applied at the Bloomberg Barclays ticker level based on the highest weighted issuer mapped to that ticker (based on aggregated weights of issues per issuer), and every bond within the same ticker will have the same MSCI ESG Rating (except for MBS, ABS, and CMBS)
- Unrated issuers from sectors with ratings are excluded. MBS, ABS, and CMBS issues are included in the index.

3.3 CARBON SCREENED UNIVERSE

Issuers from the ESG Screened Universe (from section 3.2) are subject to additional carbon emission criteria, resulting in the Carbon Screened Universe.

3.3.1 CARBON EMISSION CRITERIA

Subject to data availability, the following carbon emissions and fossil fuel exclusions will be applied to the index:

- A. Exclude issuers with any ownership of fossil fuel reserves
- B. Exclude issuers exceeding the annually-set threshold values on absolute emissions (Scope 1 + Scope 2 emissions) and emission intensity (Absolute Emissions/ Total Sales) will be excluded from the index.

Until the availability of the aforementioned carbon emissions data, as a proxy for fossil fuel ownership, the index excludes sectors that are characterized by a high concentration of fossil fuel reserve ownership, including:

Bloomberg Barclays Sector Class 1	Bloomberg Barclays Sector Class 2	Bloomberg Barclays Sector Class 3	Bloomberg Barclays Sector Class 4
Corporates	Industrial	Energy	Independent
Corporates	Industrial	Energy	Integrated
Corporates	Industrial	Basic Industry	Metals and Mining

Once the aforementioned carbon emissions and fossil fuel data become available, the exclusions at sector-level at “Bloomberg Barclays Sector Class 4” will cease to exist.

4 MAINTAINING THE BLOOMBERG BARCLAYS MSCI US AGGREGATE ESG SELECT INDEX

4.1 MONTHLY INDEX REBALANCING

The Indexes are rebalanced on a monthly basis on the last business day of each month. For each index, two populations of securities are maintained daily: a fixed returns universe, which is held constant throughout the month and used to compute returns, and a dynamic statistics universe, which projects the next month’s index composition based on current eligibility. On the last business day of the month (the rebalancing date), the composition of the latest statistics universe becomes the returns universe for the following month.

During the month, indicative changes to securities (credit rating change, sector reclassification, amount outstanding changes, corporate actions, ticker changes) are reflected daily in the statistics and returns universe of the index. These changes may cause bonds to enter or fall out of the statistics 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 rebalanced.

Intra-month cash flows from interest and principal payments contribute to monthly index returns, but are not reinvested at any short-term reinvestment rate in between rebalance dates to earn an incremental return.

4.2 WEIGHTING

The indexes are sector neutral, meaning that aggregate Bloomberg Barclays Class 2 Sector weights are adjusted to preserve the same sector exposure as the non-ESG versions of the same benchmark. Index eligible securities are market value weighted within each Bloomberg Barclays Class 2 Sector.

APPENDIX 1: VALUES-BASED EXCLUSION CRITERIA

- **Alcohol**
 - All issuers classified as a “Producer” that earn either 50% or more revenue or more than \$1 billion in revenue from alcohol-related activities
- **Tobacco**
 - All issuers classified as tobacco "Producer" that earn either 50% or more revenue from tobacco-related products.
- **Gambling**
 - All issuers classified as involved in “Operations” and “Support” that earn 50% or more revenue or more than \$1 billion in revenue from gambling-related activities
- **Nuclear Power**
 - All issuers involved in operation of or have ownership of nuclear power plants and earn 50% or more in revenue from these activities
 - All issuers involved in nuclear fuel enrichment for nuclear power generation
 - All issuers involved in uranium mining for nuclear power generation
 - All issuers involved in nuclear reactor design or construction for nuclear power generation
- **Weapons and Firearms**
 - Conventional Weapons
 - All issuers that manufacture conventional weapons components or conventional weapons and weapons systems and earn 50% or more in revenue from these activities.
 - Controversial Weapons
 - Cluster munitions manufacturers
 - Landmines manufacturers
 - Depleted Uranium Weapons manufacturers
 - All issuers involved in manufacturing of nuclear weapon components or nuclear weapon systems
 - All issuers involved in manufacturing of bio-chemical weapon components or bio-chemical weapon systems

- Civilian Firearms
 - All issuers classified as a “Producer” that earn either 50% or more revenue from civilian firearms.

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Our line of products and services includes indexes, analytical models, data, real estate benchmarks and ESG research.

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