

INDEX METHODOLOGY

INTRODUCTION

Northern Trust

50 South La Salle Street
Chicago, Illinois 60603
Nt_index_services@ntrs.com
northerntrust.com

This document sets forth the methodology for the Northern Trust ESG & Climate Investment Grade U.S. Corporate Core Index (the “Index”).

The index is calculated by Intercontinental Exchange Data Services (ICE)ⁱ, and had an inception date of July 30, 2021 at a base index value of 1000.

OVERVIEW

Northern Trust ESG & Climate Investment Grade U.S. Corporate Core Index

The Northern Trust ESG & Climate Investment Grade U.S. Corporate Core Index is designed to measure the performance of a diversified universe of US-dollar denominated bonds of companies with investment grade credit quality, that also possess environmental, social, and governance (ESG) characteristics.

INDEX ELIGIBILITY

In order to be eligible for inclusion in the Northern Trust ESG & Climate US Investment Grade Index, each bond issue must be a constituent of the Northern Trust Investment Grade U.S. Corporate Bond Index (“the Eligible Universe”; Ticker: NTUIGCB).

In addition, at each reconstitution date, issues are excluded from the index based on ESG screensⁱⁱ managed by Northern Trustⁱⁱⁱ.

DETAILED METHODOLOGY

The construction of the Index begins with a securities screen to determine eligible securities (defined in “Index Eligibility”). Once all eligible securities have been identified, the securities are then optimized based on their exposure to quantitative factors such as:

- ESG Vector Score^{iv} as determined by Northern Trust Investment’s proprietary methodology
- Institutional Shareholder Services ESG^{®v} Data: Carbon Risk Rating and Carbon Intensity
- Effective Duration^{vi}
- OAS^{vii}

The primary objective of the optimization is to minimize our variance to the Eligible Universe, while also targeting certain ESG characteristics. Systematic risk is managed during the



**NORTHERN
TRUST**

Index Methodology: NT ESG & Climate Investment Grade U.S. Corporate Core Index | 1 of 4
NTAC:3NS-20

optimization utilizing several constraints, with the optimization's hard constraints found below (bounds shown as relative weightings to the Eligible Universe unless noted otherwise):

- Sector constraint : to limit the index's maximum or minimum sector weight exposure to +/- 7.00%.
- Issuer constraint: to limit each issuer's absolute weight to 5.00%
- Country constraint: to limit the index's maximum or minimum country weight exposure to +/- 0.50%
- Constituent constraint: to limit a constituents maximum active weight to 2.5x the weight in the Eligible Universe.
- Turnover constraint: to limit the maximum turnover to approximately 10% on any reconstitution date.

All of the systematic risk constraints are placed in the constraint hierarchy so when a solution is not feasible due to hard constraints, a relaxed solution can be found.

Any changes to this methodology will be announced to the public at least sixty (60) days in advance prior to becoming effective.

REBALANCING AND RECONSTITUTION

The Northern Trust ESG & Climate Investment Grade U.S. Corporate Core Index is reconstituted monthly^{viii} on the last business day of the month in which U.S. bond markets are open for trading^{ix}, and becomes effective immediately after the market close. Intra-period adjustments may be made at the discretion of the index provider in connection with errors, changes in eligibility, and corporate actions.

The Northern Trust ESG & Climate Investment Grade U.S. Corporate Core Index reserves the right to postpone each reconstitution date for up to one week with prior client notification of such a postponement.

All changes to constituents and weightings will be announced to the public at least two (2) days prior to the reconstitution or rebalancing date, and again with definitive weights after the close of the reconstitution or rebalancing date, before the following business day's market open.



Disclaimer: Returns of the indexes do not typically reflect the deduction of investment management fees, trading costs or other expenses. It is not possible to invest directly in an index. Indexes are the property of their respective owners, all rights reserved.

ⁱ Effective as of June 2024, total return calculations will begin to incorporate a beginning of month transaction cost, which equates to an estimated cost of the turnover incurred (measured in basis points) during the most recent index reconstitution. ICE calculates index return on a month to date basis, with the transaction cost applied on the first day of the month's performance. Transaction costs only apply to new additions and existing securities that have a weight increase in the index. Specific security costs are calculated as a basis point ratio of a security's bid-ask spread to dirty price. Refer to ICE Bond Index Methodologies for more information.

ⁱⁱ Powered by Sustainalytics©. Sustainalytics is a leading independent ESG and corporate governance research, ratings and analytics firm that supports investors around the world with the development and implementation of responsible investment strategies.

ⁱⁱⁱ The Northern Trust ESG team produces an exclusion list that is constructed by using ESG analytical data to explicitly exclude companies with controversial business involvement or behavior. The screen consists of six categories of controversy or business involvement flags – Global Norms, Tobacco Business Involvement, Weaponry Business Involvement, Thermal Coal Business Involvement, Unconventional Oil & Gas Involvement, and For Profit Prisons Involvement. Examples of excluded securities from screens used in our process includes, but is not limited to removal of: companies that are non-compliant with the UN Global Compact or have experienced severe customer controversies; tobacco producers along with companies that receive significant revenue from retail or distribution of tobacco; companies with any tie to controversial weapons; companies that receive significant revenue from the production, retail and distribution of civilian weapons. For companies domiciled in emerging markets, an additional governance screen is applied and companies that do not meet following criteria are ineligible: companies with scores that fall below the emerging market company average in the corporate governance categories of board structure, ownership and shareholder rights, remuneration, and audit and financial reporting.

^{iv} The Northern Trust ESG Vector Score is designed to rank companies based on their management of and exposure to material ESG metrics. The Score was designed to align with the Sustainability Accounting Standards Board (SASB) Standards. The SASB Standards were designed for investors, and focus on only financially material issues based on the industry in which the company operates. Based on that structure, the ESG Vector Score is a combination of individual ESG indicators, adjusted for industry membership. Our optimization seeks to improve the ESG Vector Score of the Index, relative to the Eligible Universe.

^v ISS ESG solutions enable investors to develop and integrate responsible investing policies and practices, engage on responsible investment issues, and monitor portfolio company practices through screening solutions. It also provides climate data, analytics, and advisory services to help financial market participants understand, measure, and act on climate-related risks across all asset classes. Our optimization seeks to improve the Carbon Risk Rating and reduce Carbon Intensity of the Index, relative to the Eligible Universe.

^{vi} A measure of the sensitivity of the price of a bond to a change in interest rates, adjusted for embedded options, and commonly utilized to evaluate a bond's theoretical change in value given a shift in the yield curve.

^{vii} Option-adjusted spread (OAS) measures the yield differential of a fixed-income security and a duration equivalent U.S. Treasury, which is then adjusted to take into account any embedded options.

^{viii} Data used to strike the forward index is locked down for construction purposes eight business days prior to month end.

^{ix} Per the US holiday schedule posted at www.sifma.org/services/holiday-schedule/



NORTHERN TRUST INVESTMENTS (NTI) DISCLAIMER:

THE NTI INDEXES ARE THE EXCLUSIVE PROPERTY OF NTI. NTI AND NTI INDEX NAMES ARE SERVICE MARK(S) OF NTI OR ITS AFFILIATES.

ALTHOUGH NTI SELF-INDEXING GROUP SHALL OBTAIN INFORMATION FOR INCLUSION IN OR USE IN THE CALCULATION OF THE INDEXES FROM SOURCES WHICH NTI SELF-INDEXING GROUP CONSIDERS RELIABLE, NONE OF THE NTI SELF-INDEXING GROUP WARRANTS OR GUARANTEES THE ORIGINALITY, ACCURACY AND/OR THE COMPLETENESS OF ANY NTI INDEX OR ANY DATA INCLUDED THEREIN. NONE OF THE NTI SELF-INDEXING GROUP MAKES ANY WARRANTY, EXPRESS OR IMPLIED, AS TO RESULTS TO BE OBTAINED BY THE ACCOUNT OR FINANCIAL PRODUCT, OR ANY OTHER PERSON OR ENTITY FROM THE USE OF ANY NTI INDEX OR ANY DATA INCLUDED THEREIN. NONE OF THE NTI SELF-INDEXING GROUP SHALL HAVE ANY LIABILITY FOR ANY ERRORS, OMISSIONS OR INTERRUPTIONS IN CONNECTION WITH ANY INDEX OR ANY DATA INCLUDED THEREIN. FURTHER, NONE OF THE NTI SELF-INDEXING GROUP MAKES ANY EXPRESS OR IMPLIED WARRANTIES OF ANY KIND, AND THE NTI SELF-INDEXING GROUP HERBY EXPRESSLY DISCLAIM ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO EACH NTI INDEX AND DATA INCLUDED THEREIN, WITHOUT LIMITING ANY OF THE FOREGOING, IN NO EVENT SHALL ANY OF THE NTI PARTIES HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, SPECIAL, PUNITIVE, CONSEQUENTIAL OR ANY OTHER DAMAGES (INCLUDING LOST PROFITS) EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGES.

