

S&P Green Bond Indices *Methodology*

February 2020

Table of Contents

Introduction	3
Index Objectives and Highlights	3
Supporting Documents	3
Eligibility Criteria	4
Eligibility Factors	4
Sub-Index Rules	5
S&P Green Bond Select Index	5
S&P U.S. Municipal Green Bond Index	7
S&P Green Bond U.S. Dollar Select Index	8
Index Construction	9
Index Calculations	9
Index Maintenance	10
Rebalancing	10
Currency of Calculation and Additional Index Return Series	10
Base Dates and History Availability	10
Index Governance	11
Index Committee	11
Index Policy	12
Announcements	12
Holiday Schedule	12
Rebalancing	12
End-of-Day Calculation	12
Index Releases	12
Recalculation Policy	12
Contact Information	12
Index Dissemination	13
Tickers	13
Index Data	13
Web site	13

Appendix I		14
	Methodology Changes	14
Appendix II		15
	Par Amount Changes	15
Disclaimer		16

Introduction

Index Objectives and Highlights

S&P Green Bond Index. The index is a market value-weighted index designed to measure the performance of green-labeled bonds issued globally.

S&P Green Bond Select Index. The index is a sub-index of the S&P Green Bond Index and is a market value-weighted index designed to measure the performance of green-labeled bonds issued globally, subject to additional eligibility criteria and constraints as defined in *Eligibility Criteria and Index Construction*.

S&P U.S. Municipal Green Bond Index. The index is a sub-index of the S&P Green Bond Index and is a market value-weighted index designed to measure the performance of U.S. green-labeled muni bonds, subject to additional eligibility criteria as defined in *Eligibility Criteria*.

S&P Green Bond U.S. Dollar Select Index. The index is a sub-index of the S&P Green Bond Index and is a market value-weighted index designed to measure the performance of U.S. Dollar green-labeled bonds, subject to additional eligibility criteria and constraints as defined in *Eligibility Criteria and Index Construction*.

The S&P Green Bond Indices are comprised of a universe of global bonds labelled “green” by Climate Bonds Initiative (CBI) and subject to eligibility criteria. A green-labelled bond is a bond whose proceeds are used to finance environmentally friendly projects.

The indices undergo a rebalancing process once a month, with the intent of keeping the index current.

The S&P Green Bond index was developed collaboratively by S&P Dow Jones Indices and Infrastructure Credit Alpha Group LLC. The S&P Green Bond Select Index was developed exclusively by S&P Dow Jones Indices. The index methodology is maintained and the indices are calculated and managed independently by S&P Dow Jones Indices according to S&P Dow Jones Indices’ standard policies and procedures, including the policies and procedures governing S&P Dow Jones Indices’ independent Index Committee.

Supporting Documents

This methodology is meant to be read in conjunction with supporting documents providing greater detail with respect to the policies, procedures and calculations described herein. References throughout the methodology direct the reader to the relevant supporting document for further information on a specific topic. The list of the main supplemental documents for this methodology and the hyperlinks to those documents is as follows:

Supporting Document	URL
S&P Dow Jones Indices’ Fixed Income Policies & Practices Methodology	Fixed Income Policies & Practices
S&P Dow Jones Indices’ Fixed Income Index Mathematics Methodology	Index Mathematics Methodology

This methodology was created by S&P Dow Jones Indices to achieve the aforementioned objective of measuring the underlying interest of the index governed by this methodology document. Any changes to or deviations from this methodology are made in the sole judgment and discretion of S&P Dow Jones Indices so that the index continues to achieve its objective.

Eligibility Criteria

Eligibility Factors

Unless otherwise noted all eligibility criteria apply to all indices. Eligibility factors specific to the sub-indices are listed on the following pages in the *Sub-Index Rules* section.

Country/Currency. Green bonds issued from any country and in any currency are eligible for index inclusion.

Green Flag. Bonds must be flagged as “green” by Climate Bonds Initiative (CBI)¹ to be eligible for index inclusion. For a bond to be flagged green the issuer must clearly indicate the bond’s “green” label and the rationale behind it, such as the intended use of proceeds. CBI uses company disclosures to make the “green” determination. Such disclosures must be made in sources that are credible and related to the company, and may include:

- Company’s web site
- Sustainability report
- Legal disclosures
- Public Filings
- Independent second opinions

Maturity. Each bond must have a maturity greater than one month from the rebalancing date. No bond matures in the index.

Coupon Type. The following coupon types are eligible for index inclusion:

- Fixed
- Zero Coupon
- Step-Up
- Floaters
- Fixed-to-Float

Security Type. For USD and CAD denominated bonds which have multiple registrations, the 144a version will be eligible and the Reg-S will be excluded. For all other currency denominated bonds which have multiple registrations, the Reg-S will be included while the 144a will be excluded.

Settlement. Bonds issued up to the rebalancing reference date (regardless of the settlement date). Standard index settlement convention is same-day (e.g. T+0), unless otherwise specified. For month-ends that fall on a weekend, the interest accrued during the month will be reflected within the calendar month, regardless of settlement convention. For rates that are not available at month-end (e.g. a rate with an unknown reset), the accrual will be based on the current rate and adjusted the first business day of the next month.

Exclusions. The following bond types are specifically excluded from the indices:

- Bills
- STRIPS
- Inflation-Linked

Pricing. Bid Price – Refinitiv and Securities Evaluations | ICE Data Services are the designated pricing sources. Bonds not priced by Refinitiv or Securities Evaluations | ICE Data Services are not eligible for index inclusion.

¹ For information on CBI’s methodology, please refer to their website at <https://www.climatebonds.net/>.

Sub-Index Rules

S&P Green Bond Select Index

Currency and Market of Issue. Bonds issued in G10 currencies are eligible for index inclusion. Bonds issued in non-G10 currencies must be issued in global markets (e.g. Foreign, Global or Eurobond) to be eligible for index inclusion.

Coupon Type. Floaters are not eligible for sub-index inclusion.

Optionality. Bullets, callable and puttable securities are included. Fixed-to-floating rate securities qualify if they are in the fixed phase and have at least one month until the date they transition to floating. Step-up coupon securities qualify if they have a predetermined coupon schedule.

Maturity. Each bond must have at least 24 months to final maturity at the time of issuance to be included, and have at least one month remaining until maturity at each rebalancing date. No bond matures in the index.

Security Type. The following bond types, including those excluded from the parent, are specifically excluded from the sub-index:

- Sukuk Bonds
- Convertible Securities
- Floating-rate Securities
- Private Placement with no registration
- Perpetual Securities
- Tax Exempt Municipal Bonds

Credit Rating Quality.

- **New Issues.** New issues must be rated by at least one rating agency (S&P, Moody's or Fitch) to be considered at the next rebalancing.
- **Non-rated and Defaulted Bonds.** Bonds that are no longer rated or have defaulted are removed at the next rebalancing.
- **Investment Grade.** The minimum credit rating for inclusion is BBB-/Baa3/BBB-. The lowest of all available ratings (S&P, Moody's and Fitch) is used as the index rating.
- **High Yield.** The maximum credit rating for inclusion is BB+/Ba1/BB+. The lowest of all available credit ratings (S&P, Moody's and Fitch) is used as the index rating.

The issuer rating may be applied in place of the bond level ratings. For example, a sovereign bond index may apply the long term foreign currency issuer rating in place of each sovereign bond issue.

Minimum Par Outstanding. The minimum par outstanding requirements based on issuer type and currency of issue are outlined in the table below.

Minimum Notional Par Amount Outstanding					
Currency of Issue	Sovereign	Investment Grade	High Yield	U.S. Muni Taxable	Market of Issue
AUD	750 million	250 million	250 million	--	Any
BRL	1 billion	500 million	500 million	--	Global/Eurobond
CAD	750 million	250 million	250 million	--	Any
CHF	750 million	250 million	250 million	--	Any
CLP	200 billion	100 billion	100 billion	--	Global/Eurobond
CNH	2.5 billion	1.25 billion	1.25 billion	--	Global/Eurobond
CNY	2.5 billion	1.25 billion	1.25 billion	--	Global/Eurobond
COP	1 trillion	500 billion	500 billion	--	Global/Eurobond
CZK	7.5 billion	3.75 billion	3.75 billion	--	Global/Eurobond
DKK	1 billion	1 billion	1 billion	--	Global/Eurobond
EGP	5 billion	2.5 billion	2.5 billion	--	Global/Eurobond
EUR	750 million	250 million	250 million	--	Any
GBP	750 million	250 million	250 million	--	Any
HKD	2 billion	1 billion	1 billion	--	Global/Eurobond
HUF	75 billion	37.5 billion	37.5 billion	--	Global/Eurobond
IDR	4 trillion	2 trillion	2 trillion	--	Global/Eurobond
ILS	1 billion	500 million	500 million	--	Global/Eurobond
INR	15 billion	7.5 billion	7.5 billion	--	Global/Eurobond
JPY	100 billion	25 billion	25 billion	--	Any
KRW	250 billion	125 billion	125 billion	--	Global/Eurobond
LKR	50 billion	25 billion	25 billion	--	Global/Eurobond
MXN	5 billion	2.5 billion	2.5 billion	--	Global/Eurobond
MYR	1 billion	500 million	500 million	--	Global/Eurobond
NGN	100 billion	50 billion	50 billion	--	Global/Eurobond
NOK	1 billion	1 billion	1 billion	--	Any
NZD	750 million	250 million	250 million	--	Any
PEN	1 billion	500 million	500 million	--	Global/Eurobond
PHP	15 billion	7.5 billion	7.5 billion	--	Global/Eurobond
PLN	1 billion	500 million	500 million	--	Global/Eurobond
RON	1.5 billion	750 million	750 million	--	Global/Eurobond
RUB	15 billion	7.5 billion	7.5 billion	--	Global/Eurobond
SEK	1 billion	1 billion	1 billion	--	Any
SGD	500 million	250 million	250 million	--	Global/Eurobond
THB	10 billion	5 billion	5 billion	--	Global/Eurobond
TRY	1 billion	500 million	500 million	--	Global/Eurobond
TWD	10 billion	5 billion	5 billion	--	Global/Eurobond
USD	750 million	250 million	250 million	250 million	Any
VND	10 trillion	5 trillion	5 trillion	--	Global/Eurobond
ZAR	3 billion	1.5 billion	1.5 billion	--	Global/Eurobond

S&P U.S. Municipal Green Bond Index

Issuer. The bond issuer is a U.S. state (including the Commonwealth of Puerto Rico and U.S. territories) or local government or agency such that interest on the bond is exempt from U.S. federal income taxes, but may be subject to alternative minimum tax (AMT).

Currency. The bond must be denominated in U.S. dollars

Maturity. As of the rebalancing date, the bond must have a minimum term to maturity greater than one calendar month. For any bond with an announced full call, the call date must be greater than one calendar month.

Security Type. The following bond types are specifically excluded:

- Commercial paper
- Derivative securities (inverse floaters, forwards, & swaps)
- Notes
- Taxable municipals
- Variable rate debt (except for known step-up/down coupon schedule bonds)
- Defaulted Bonds

Minimum Par Amount. Bonds must have a minimum par amount of US\$ 2 million to be eligible for inclusion.

S&P Green Bond U.S. Dollar Select Index

Currency. The bond must be denominated in U.S. dollars

Maturity. Each bond must have at least 12 months to final maturity at the time of issuance to be included, and have at least one month remaining until maturity at each rebalancing date. No bond matures in the index.

Minimum Par Outstanding. The minimum par outstanding must be US\$ 200 million or greater.

Security Type. The following bond types, in addition to those excluded from the parent, are specifically excluded from the sub-index:

- Tax Exempt Municipal Bonds
- Private Placement with no registration
- Convertible Securities
- Perpetual Securities

Credit Rating Quality.

- **Non-rated bonds.** Non-rated bonds issued by U.S. government sponsored enterprises, such as FNMA, Freddie Mac, etc., are eligible for inclusion.
- **Defaulted Bonds.** Bonds that have defaulted are removed at the next rebalancing.

Index Construction

Index Calculations

S&P Green Bond Index and S&P U.S. Municipal Green Bond Index. The indices are market value weighted.

S&P Green Bond Select Index and S&P Green Bond U.S. Dollar Select Index. The indices are market value weighted subject to the following constraints:

1. Issuers (including non-rated issuers for the S&P Green Bond U.S. Dollar Select Index) are capped at 10%.²
2. If the High Yield portion of the index exceeds 20% following step 1, a 20% cap is applied. The excess weight is redistributed proportionally to all uncapped securities that do not carry a high yield rating.

The total return is calculated by aggregating the interest return, reflecting the return due to paid and accrued interest, and price return, reflecting the gains or losses due to changes in the end-of-day price and principal repayments.

For further details regarding index calculations please refer to S&P Dow Jones Indices' Fixed Income Index Mathematics Methodology.

² Based on the number of issuers in the index prior to 2015 the capping rules were not applied.

Index Maintenance

Rebalancing

Indices are reviewed and rebalanced in accordance with their stated schedule. The Index Committee, nevertheless, reserves the right to make adjustments to an index at any time that it believes appropriate.

Additions, deletions and other changes to an index arising from the rebalancing are made provided the security's reference information and pricing are available by designated pricing and data providers on the rebalancing reference date. Changes to an index are published on the announcement date and become effective on the rebalancing date. Information related to the rebalancing is obtained and disseminated after the close of business.

Rebalancing Schedule	
Rebalancing Frequency	Monthly
Rebalancing Date	Last day of the rebalancing period (T)
Announcement Date	T - 3
Reference Date	T - 4

All days reflect after the close and count business days

Currency of Calculation and Additional Index Return Series

The indices are calculated in U.S. dollars.

WM/Reuters foreign exchange rates are taken daily at 04:00 PM London time and used in the calculation of the indices. These mid-market fixings are calculated by the WM Company based on Reuters' data and appear on Reuters pages WMRA.

Additional currency and currency hedged versions of the indices, as well as maturity, sector, and rating-based sub-indices may be available. For a list of available sub-indices and tickers, please refer to S&P Dow Jones Indices' Fixed Income Index Directory available at www.spdji.com.

For more information on currency and currency hedged indices, please refer to S&P Dow Jones Indices' Fixed Income Index Mathematics Methodology.

Base Dates and History Availability

Indices history availability, base dates, and base values are shown in the table below.

Index	Launch Date	First Value Date	Base Date	Base Value
S&P Green Bond Index	07/21/2014	11/28/2008	11/28/2008	100
S&P Green Bond Select Index	02/17/2017	11/28/2008	11/28/2008	100
S&P U.S. Municipal Green Bond Index	01/14/2019	06/30/2014	06/30/2014	100
S&P Green Bond U.S. Dollar Select Index	06/17/2019	05/01/2009	05/01/2009	100

Index Governance

Index Committee

S&P Dow Jones Indices' Fixed Income Index Committee maintains the indices. All committee members are full-time professionals at S&P Dow Jones Indices. Meetings are held regularly.

The Index Committee oversees the management of the indices, including determinations of intra-rebalancing changes, maintenance and inclusion policies, and other matters affecting the maintenance and calculation of the indices.

In fulfilling its responsibilities, the Index Committee has full and complete discretion to (i) amend, apply, or exempt the application of index rules and policies as circumstances may require and (ii) add, remove, or by-pass any bond in determining the composition of the index.

The Index Committee may rely on any information or documentation submitted to it or gathered by it that the Index Committee believes to be accurate. The Index Committee reserves the right to reinterpret publicly available information and to make changes to the index based on a new interpretation of that information at its sole discretion. All Index Committee discussions are confidential.

The Index Committee is separate from and independent of other analytical groups at S&P Global. In particular, the Index Committee has no access to or influence on decisions by S&P Global Ratings analysts.

S&P Dow Jones Indices' Index Committees reserve the right to make exceptions when applying the methodology if the need arises. In any scenario where the treatment differs from the general rules stated in this document or supplemental documents, clients will receive sufficient notice, whenever possible.

In addition to the daily governance of indices and maintenance of index methodologies, at least once within any 12-month period, the Index Committee reviews the methodology to ensure the indices continue to achieve the stated objectives, and that the data and methodology remain effective. In certain instances, S&P Dow Jones Indices may publish a consultation inviting comments from external parties.

For information on Quality Assurance and Internal Reviews of Methodology, please refer to S&P Dow Jones Indices' Fixed Income Policies & Practices Methodology.

Index Policy

Announcements

Announcements of any relevant information pertaining to the indices are made after market close. Press releases are posted on the S&P Dow Jones Indices Web site at www.spdji.com.

Holiday Schedule

The indices are calculated on all business days of the year (Monday through Friday).

A complete holiday schedule for the year is available on S&P Dow Jones Indices' Web site at www.spdji.com.

Rebalancing

The Index Committee may change the date of a given rebalancing for reasons including market holidays occurring on or around the scheduled rebalancing date. Any such change will be announced with proper advance notice where possible.

End-of-Day Calculation

Index levels are calculated at the end of each business day, via S&P Dow Jones Indices' Web site. This may be subject to change.

Index Releases

Releases are issued by S&P Dow Jones Indices at the end of the business day.

Recalculation Policy

For information on the recalculation policy please refer to S&P Dow Jones Indices' Fixed Income Policies & Practices document.

For information on Calculations and Pricing Disruptions, Expert Judgment and Data Hierarchy, please refer to S&P Dow Jones Indices' Fixed Income Policies & Practices Methodology.

Contact Information

For questions regarding an index, please contact: index_services@spglobal.com.

Index Dissemination

Index levels are available through S&P Dow Jones Indices' Web site at www.spdji.com, major quote vendors (see codes below), numerous investment-oriented Web sites, and various print and electronic media.

Tickers

The table below lists headline indices covered by this document. All versions of the below indices that may exist are also covered by this document. Please refer to [S&P DJI's All Indices by Methodology Report](#) for a complete list of indices covered by this document.

Index (Total Return)	Ticker
S&P Green Bond Index	SPUSGRN
S&P Green Bond Select Index	SPGRNSL
S&P Green Bond Select Index AUD	SPGRNSLA
S&P Green Bond Select Index CAD	SPGRNSLC
S&P Green Bond Select Index CHF	SPGRNSLF
S&P Green Bond Select Index DKK	SPGRNSLD
S&P Green Bond Select Index EUR	SPGRNSLE
S&P Green Bond Select Index GBP	SPGRNSLG
S&P Green Bond Select Index JPY	SPGRNSLJ
S&P Green Bond Select Index HKD	SPGRNSLH
S&P Green Bond Select Index NOK	SPGRNSLN
S&P Green Bond Select Index NZD	SPGRNSLZ
S&P Green Bond Select Index SEK	SPGRNSLS
S&P Green Bond Select Index AUD Hedged	SPGRNSAH
S&P Green Bond Select Index CAD Hedged	SPGRNSCH
S&P Green Bond Select Index CHF Hedged	SPGRNSFH
S&P Green Bond Select Index DKK Hedged	SPGRNSDH
S&P Green Bond Select Index EUR Hedged	SPGRNSEH
S&P Green Bond Select Index GBP Hedged	SPGRNSGH
S&P Green Bond Select Index JPY Hedged	SPGRNSPH
S&P Green Bond Select Index HKD Hedged	SPGRNSHH
S&P Green Bond Select Index NOK Hedged	SPGRNSNH
S&P Green Bond Select Index NZD Hedged	SPGRNSZH
S&P Green Bond Select Index SEK Hedged	SPGRNSSH
S&P Green Bond Select Index USD Hedged	SPGRNSUH
S&P U.S. Municipal Green Bond Index	SPGRNMS
S&P Green Bond U.S. Dollar Select Index	SPGRUSS

Index Data

Daily index level data is available via subscription.

For product information, please contact S&P Dow Jones Indices, www.spdji.com/contact-us.

Web site

For further information, please refer to S&P Dow Jones Indices' Web site at www.spdji.com.

Appendix I

Methodology Changes

Methodology changes since January 1, 2015 are as follows:

Change	Effective Date (After Close)	Previous	Methodology Updated
Holiday Schedule	04/30/2019	The indices are calculated on all business days of the year (Monday through Friday) except Christmas and New Year's day.	The indices are calculated on all business days of the year (Monday through Friday).
Par Amount Changes	06/30/2017	See <i>Appendix II</i> for details on the previous and updated par amounts.	See <i>Appendix II</i> for details on the previous and updated par amounts.
Rebalancing Announcement Date and Pro-forma Schedule	06/30/2017	The rebalancing announcement date is the second to last business day (T-1) of the month. Pro-forma files are delivered on the second to last business day of the month.	The rebalancing announcement date is the fourth to last business day (T-3) of the month. Pro-forma files will be delivered on each of the last four business days of the month.

Appendix II

Par Amount Changes

Par amount changes effective after the close on June 30, 2017 are as follows:

Currency of Issue	Minimum Notional Par Amount Outstanding						Market of Issue
	Sovereign		Investment Grade		High Yield		
	Previous	Updated	Previous	Updated	Previous	Updated	
AUD	1 billion	750 million	250 million	250 million	100 million	250 million	Any
BRL	1 billion	1 billion	250 million	500 million	100 million	500 million	Global/Eurobond
CAD	1 billion	750 million	250 million	250 million	100 million	250 million	Any
CHF	1 billion	750 million	250 million	250 million	100 million	250 million	Any
CLP	100 billion	200 billion	250 million	100 billion	100 million	100 billion	Global/Eurobond
CNH	1 billion	2.5 billion	1 billion	1.25 billion	500 million	1.25 billion	Global/Eurobond
CNY	10 billion	2.5 billion	1 billion	1.25 billion	500 million	1.25 billion	Global/Eurobond
COP	500 billion	1 trillion	300 billion	500 billion	100 billion	500 billion	Global/Eurobond
CZK	1 billion	7.5 billion	2 billion	3.75 billion	500 million	3.75 billion	Global/Eurobond
DKK	1 billion	1 billion	250 million	1 billion	100 million	1 billion	Global/Eurobond
EGP	1 billion	5 billion	250 million	2.5 billion	100 million	2.5 billion	Global/Eurobond
EUR	1 billion	750 million	250 million	250 million	100 million	250 million	Any
GBP	1 billion	750 million	250 million	250 million	100 million	250 million	Any
HKD	300 million	2 billion	300 million	1 billion	120 million	1 billion	Global/Eurobond
HUF	1 billion	75 billion	250 million	37.5 billion	100 million	37.5 billion	Global/Eurobond
IDR	2 trillion	4 trillion	1 trillion	2 trillion	100 million	2 trillion	Global/Eurobond
ILS	1 billion	1 billion	300 million	500 million	150 million	500 million	Global/Eurobond
INR	30 billion	15 billion	3 billion	7.5 billion	100 million	7.5 billion	Global/Eurobond
JPY	100 billion	100 billion	20 billion	25 billion	8 billion	25 billion	Any
KRW	1 trillion	250 billion	100 billion	125 billion	50 billion	125 billion	Global/Eurobond
LKR	1 billion	50 billion	250 million	25 billion	100 million	25 billion	Global/Eurobond
MXN	1 billion	5 billion	250 million	2.5 billion	100 million	2.5 billion	Global/Eurobond
MYR	1 billion	1 billion	500 million	500 million	250 million	500 million	Global/Eurobond
NGN	1 billion	100 billion	250 million	50 billion	100 million	50 billion	Global/Eurobond
NOK	1 billion	1 billion	250 million	1 billion	100 million	1 billion	Any
NZD	1 billion	750 million	250 million	250 million	100 million	250 million	Any
PEN	500 million	1 billion	250 million	500 million	100 million	500 million	Global/Eurobond
PHP	3 billion	15 billion	3 billion	7.5 billion	100 million	7.5 billion	Global/Eurobond
PLN	1 billion	1 billion	250 million	500 million	100 million	500 million	Global/Eurobond
RON	--	1.5 billion	300 million	750 million	150 million	750 million	Global/Eurobond
RUB	--	15 billion	5 billion	7.5 billion	2 billion	7.5 billion	Global/Eurobond
SEK	1 billion	1 billion	250 million	1 billion	100 million	1 billion	Any
SGD	1.5 billion	500 million	100 million	250 million	50 million	250 million	Global/Eurobond
THB	20 billion	10 billion	3 billion	5 billion	100 million	5 billion	Global/Eurobond
TRY	1 billion	1 billion	250 million	500 million	100 million	500 million	Global/Eurobond
TWD	30 billion	10 billion	3 billion	5 billion	1.5 billion	5 billion	Global/Eurobond
USD	1 billion	750 million	250 million	250 million	100 million	250 million	Any
VND	--	10 trillion	250 million	5 trillion	100 million	5 trillion	Global/Eurobond
ZAR	1 billion	3 billion	1 billion	1.5 billion	500 million	1.5 billion	Global/Eurobond

Disclaimer

Copyright © 2020 S&P Dow Jones Indices LLC. All rights reserved. STANDARD & POOR'S, S&P, S&P 500, S&P 500 LOW VOLATILITY INDEX, S&P 100, S&P COMPOSITE 1500, S&P MIDCAP 400, S&P SMALLCAP 600, S&P GIVI, GLOBAL TITANS, DIVIDEND ARISTOCRATS, S&P TARGET DATE INDICES, GICS, SPIVA, SPDR and INDEXOLOGY are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"). DOW JONES, DJ, DJIA and DOW JONES INDUSTRIAL AVERAGE are registered trademarks of Dow Jones Trademark Holdings LLC ("Dow Jones"). These trademarks together with others have been licensed to S&P Dow Jones Indices LLC. Redistribution or reproduction in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. This document does not constitute an offer of services in jurisdictions where S&P Dow Jones Indices LLC, S&P, Dow Jones or their respective affiliates (collectively "S&P Dow Jones Indices") do not have the necessary licenses. Except for certain custom index calculation services, all information provided by S&P Dow Jones Indices is impersonal and not tailored to the needs of any person, entity or group of persons. S&P Dow Jones Indices receives compensation in connection with licensing its indices to third parties and providing custom calculation services. Past performance of an index is not an indication or guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index may be available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor, and S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. Prospective investors are advised to make an investment in any such fund or other vehicle only after carefully considering the risks associated with investing in such funds, as detailed in an offering memorandum or similar document that is prepared by or on behalf of the issuer of the investment fund or other investment product or vehicle. S&P Dow Jones Indices LLC is not a tax advisor. A tax advisor should be consulted to evaluate the impact of any tax-exempt securities on portfolios and the tax consequences of making any particular investment decision. Inclusion of a security within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, nor is it considered to be investment advice.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof ("Content") may be modified, reverse-engineered, reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively "S&P Dow Jones Indices Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN "AS IS" BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be

liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

Credit-related information and other analyses, including ratings, research and valuations are generally provided by licensors and/or affiliates of S&P Dow Jones Indices, including but not limited to S&P Global's other divisions such as S&P Global Market Intelligence. Any credit-related information and other related analyses and statements in the Content are statements of opinion as of the date they are expressed and not statements of fact. Any opinion, analyses and rating acknowledgement decisions are not recommendations to purchase, hold, or sell any securities or to make any investment decisions, and do not address the suitability of any security. S&P Dow Jones Indices does not assume any obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P Dow Jones Indices LLC does not act as a fiduciary or an investment advisor. While S&P Dow Jones Indices has obtained information from sources they believe to be reliable, S&P Dow Jones Indices does not perform an audit or undertake any duty of due diligence or independent verification of any information it receives.

To the extent that regulatory authorities allow a rating agency to acknowledge in one jurisdiction a rating issued in another jurisdiction for certain regulatory purposes, S&P Global Ratings reserves the right to assign, withdraw or suspend such acknowledgement at any time and in its sole discretion. S&P Dow Jones Indices, including S&P Global Ratings, disclaim any duty whatsoever arising out of the assignment, withdrawal or suspension of an acknowledgement as well as any liability for any damage alleged to have been suffered on account thereof. Affiliates of S&P Dow Jones Indices LLC, including S&P Global Ratings, may receive compensation for its ratings and certain credit-related analyses, normally from issuers or underwriters of securities or from obligors. Such affiliates of S&P Dow Jones Indices LLC, including S&P Global Ratings, reserve the right to disseminate its opinions and analyses. Public ratings and analyses from S&P Global Ratings are made available on its Web sites, www.standardandpoors.com (free of charge), and www.ratingsdirect.com and www.globalcreditportal.com (subscription), and may be distributed through other means, including via S&P Global Ratings publications and third-party redistributors. Additional information about our ratings fees is available at www.standardandpoors.com/usratingsfees.

S&P Global keeps certain activities of its various divisions and business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions and business units of S&P Global may have information that is not available to other business units. S&P Global has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.