

# Income with Impact: A Guide to Green Bonds

## Introduction

The size of the green bond market has increased significantly in recent years, with issuance nearly doubling in 2016 from 2015 levels, from \$41 billion to \$82 billion; 2017 issuance levels are expected to come in at approximately \$150 billion.<sup>1</sup> The increased demand for green bonds has come from a range of investors including institutional pension and endowment funds with environmental, social, and governance (ESG) mandates to individual investors looking to add a green focus into their fixed income allocations.

Green bonds are simply conventional bonds with an environmentally friendly use of proceeds. Today the overall market resembles a core global fixed income benchmark, with similar yield, duration, and credit quality. Investors can allocate a portion of their global bond allocation to green bonds without significantly altering the risk and return profile of their portfolio. In other words, bond investors can structure a more environmentally aware portfolio without having to compromise on their investment goals.

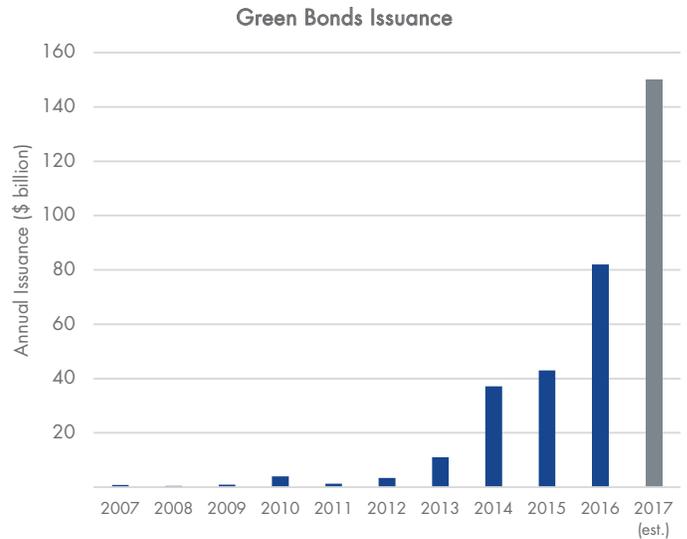
Although green bonds only represented about 1% of total bond issuance in 2016,<sup>2</sup> there is tremendous potential for continued growth. We believe that the issuance of green bonds will likely scale up massively in a short amount of time to finance the projects needed to help transition to a low carbon economy. This represents a significant opportunity for fixed income investors.

## Common Green Project Categories

Energy	Buildings	Industry	Transport
Solar	Energy Efficiency	Energy Efficient Products	Rail
Wind	Smart Lighting	Cogeneration	Transport Logistics
Energy Storage	LEED (Leadership in Energy and Environmental Design) Buildings	Waste Heat Recovery	Electric vehicle loans
Information Technology	Waste and Pollution	Agriculture and Forestry	Adaptation
Smart Grid	Waste to Energy	Agriculture Efficiency	Resilience infrastructure
Technology Substitution	Greenhouse gas capture	Reforestation	Flood Protection
Broadband	Recycling	Carbon Sequestration	Desalination

Source: Climate Bonds Initiative.

Charts herein are for illustrative purposes and are not indicative of future results; current data may differ from data quoted.



Source: Climate Bonds Initiative.

## What are green bonds?

A bond is generally considered to be “green” if the issuance proceeds are used solely to finance projects or activities that have a positive environmental impact. When issuers clearly indicate to investors how a green bond’s proceeds will be used, the bond receives a “green label”. Carbon emissions mitigation to combat global warming often comes to mind when discussing green bonds (and some use the term “climate bonds” interchangeably), but green bonds can also be used to finance other objectives as well.

### What does the “green label” mean?

It should be noted that there is no market-wide, exhaustive list of green bond-eligible projects. Historically issuers have been able to assess whether a project is in line with climate mitigation or some other environmental goal and have “self-labeled” bonds as green. In many cases, such as building a solar or wind farm, this assessment is straightforward and a green label would not be ambiguous. However, as market size and investor interest have grown there has been growing demand for independent third-party evaluations to verify that a green bond is, indeed, green.

Although the green label has begun to attract investor attention as a way to identify bonds which have a clearly disclosed use of proceeds that aims to benefit the environment, there is also a much larger (approximately \$576 billion<sup>3</sup>) universe of unlabeled green bonds. Many infrastructure projects that might be considered green, for example municipal water projects, were financed through bond issuance long before the relatively recent development of the green bond market. Many issuers of unlabeled green bonds may not feel the additional disclosure or cost of verification is worth the expense. Or they may simply be unaware of the tremendous interest in labeled green bonds.

Another example of unlabeled green bonds relates to bonds issued for general corporate purposes by “pure-play”<sup>4</sup> companies, such as manufacturers of solar panels or electric cars. Although the businesses of these firms are inherently environmentally friendly, market participants do not consider these bonds to comply with best practices since the use of proceeds is not specified at the time of issuance, and therefore the bonds do not carry a green label. To be sure, proceeds may go towards activities or projects considered environmentally friendly. However they could also finance non-green activities such as a dividend payment or share repurchase.

Given that the market is still in its early years, we believe that the green label is essential in providing confidence to investors that their investment is promoting environmentally sustainable projects, and is needed to promote future market growth.

### The climate challenge and the role of green bonds

Discussions about climate change and carbon emissions can elicit debate and rhetoric around both the causes of, and solutions to, global warming. However, there are some facts that can generally be agreed upon. First, the concentrations in the earth’s atmosphere of greenhouse gases such as carbon dioxide, methane, and nitrous

oxide have increased since the industrial revolution, and began to increase exponentially since the middle of the 20th century.<sup>5</sup> Second, average temperatures have been increasing, particularly in the last 30 years, and 2016 went into the history books as our warmest year on record since modern recordkeeping began in 1880.<sup>6</sup> Lastly, as the effects of climate change have begun to have a more noticeable impact all over the world with more frequency, people are demanding action from their leaders. Governments around the world have begun to respond.

### Paris Agreement signals real progress, despite U.S. withdrawal

The most significant progress to date occurred at the December 2015 meeting of the parties to the United Nations Framework Convention on Climate Change, referred to as the Conference of the Parties. At “COP 21” in Paris, an agreement to limit global warming to 2° Celsius from pre-industrial levels was reached. The agreement was ratified the following year when countries representing 55% of global greenhouse gas emissions signed on, including, importantly, the United States and China. Under the agreement, signatories must submit and report on carbon emission targets, and developed nations agreed to supply \$100 billion to fund projects in developing countries. However each country sets its own target and there is no guarantee that the carbon emissions targets set will be sufficient to meet the 2°C target. Further some believe that even if the target can be reached, it is insufficient to reverse the impacts and consequences from the damage that has already been done.

The June 2017 decision by the U.S. to withdraw from the Paris Agreement has brought uncertainty around the country’s commitment to reach the 2°C target, at least at the federal level. However these goals are necessarily long term in nature, and even if the U.S. wavers in its obligation over the next few years, progress is expected to continue globally. Despite the decision to withdraw from the agreement, the U.S. has already made significant progress in reducing greenhouse gas emissions in recent years and few expect that trend to reverse. In addition, many states and cities are pursuing ambitious emissions reductions programs, many in alignment with the goals of the Paris Agreement. These programs, as well as the necessary investment needed to upgrade the country’s aging infrastructure, will further highlight the need for additional green financing initiatives, including green bonds.

## Progress has been made to establish climate related goals...

### 1992: Earth Summit, Rio de Janeiro

- Creation of U.N. Framework Convention on Climate Change
- Framework for international cooperation to combat climate change and adaptation

### 2005: COP 11, Montreal

- Kyoto signatories extend agreement and seek deeper emissions cuts

### 2015: COP 21, Paris

- 195 countries commit to reducing greenhouse gas emissions
- Set goal of limiting global warming to below 2°C



### 1995: Conference of the Parties ("COP") 3, Kyoto

- Adoption of Kyoto Protocol
- Set carbon emissions targets
- Largest greenhouse gas emitters (U.S. and China) did not ratify

### 2011: COP 17, Durban

- Participants agree to work towards legally binding deal
- Established Green Climate Fund to assist developing countries

### 2016: Paris Agreement Ratified

- Countries representing >55% of greenhouse gas emissions ratify agreement
- Includes U.S. and China

Source: S&P.

## ...and policies to achieve them, which may promote growth of green finance.

- California:** Passed legislation to reduce emissions to 40% below 1990 levels by 2030, with plans to increase renewable energy usage, cut emissions, and increase energy efficiency
- China:** Government introduced official green bond guidelines and proposed tax incentives
- France:** Adopted mandatory climate reporting for companies and institutional investors
- Mexico:** Adopted law to decrease greenhouse gas emissions by 50% by 2050
- New York City:** City pension funds issued request for proposals (RFPs) calling for carbon footprint analysis and climate risk investment strategy consultant
- Switzerland:** Voted to implement a sustainable resource policy receives 36% support
- United Kingdom:** Bank of England called for more rapid development of green bond market to address climate change risks

Source: S&P.

## Climate goals come at a staggering cost

Despite these potential issues, what is clear is that there is a concerted effort by governments globally to slow down the effect of climate change, which has begun to result in policies and regulations to achieve their goals. Governments, municipalities, and companies in developed and developing countries must make significant investments to achieve the goals that have been established. The amount of investment needed is staggering, estimated at \$53 to \$93 trillion over the next 15 to 20 years.<sup>7</sup> With debt-to-GDP ratios in developed economies already at or exceeding 100%,<sup>8</sup> governments simply do not have the resources to make the needed investments to transition to a low carbon economy. Private capital is, therefore, needed to fill this financing gap. The global debt capital markets, with more than \$90 trillion currently outstanding,<sup>9</sup> is expected to play a vital role.

For these reasons, green bonds have begun to receive the attention of both issuers and investors worldwide. Although green bond issuance has exploded in recent years, 2016 issuance was still only about 1% of total bond issuance during the year.<sup>10</sup> Issuance of green bonds will need to scale up massively in short order to finance the projects needed to transition to a low carbon economy.

## Market standards to promote growth

In addition to government actions to address climate change and sustainable finance, another reason behind the rapid growth of the green bond market has been progress towards establishing a commonly accepted definition of what a green bond is, and towards developing standards against which green bonds can be evaluated. In the first few years of the green bond market's existence, the self-labeled nature of the market led to concerns that issuers could apply proceeds of "green" bonds towards non-green purposes, sometimes referred to as "greenwashing". This "wild west" market environment led to the establishment of the Green Bond Principles in 2014 by the International Capital Market Association. Although voluntary, the Green Bond Principles set out four core principles that have gained broad market acceptance by bond underwriters, issuers, and investors. In particular having a clearly defined use of proceeds has become the de facto definition of green bonds and provides a level of transparency needed to use a green label and confidence to investors that they are financing green projects. Further they have become the foundation for policymakers and market participants seeking to establish detailed standards.

Multiple frameworks have been developed globally by governments, environmental groups, consulting firms, and research providers to identify the types of projects considered “green”. Issuers have increasingly sought opinions from independent external reviewers to verify that their green projects are, in fact, green and in line with one of these multiple classification systems.

In addition, there has been progress in establishing common, detailed standards aligned with the Green Bond Principles. The Climate Bonds Initiative, an investor-focused nonprofit working to mobilize debt markets for climate change solutions, has developed a green bond project taxonomy, sector-specific technical criteria, and post-issuance requirements, known as the Climate Bonds Standard. Issuers can arrange to have their bonds independently reviewed and certified against this standard, providing additional assurance and transparency to investors.

### The Green Bond Principles have four core components:

- **Use of proceeds:** Proceeds should fund projects with clear environmental benefits, with clear disclosure in legal documentation
- **Project evaluation and selection:** Issuers should outline a process to determine project eligibility and sustainability objectives
- **Management of proceeds:** Proceeds should be ring-fenced or tracked through a formal internal process
- **Reporting:** Annual disclosure of the use of proceeds and qualitative and quantitative performance measures

### The Climate Bonds Initiative works to mobilize the global bond market for climate solutions:

- **Market research and tracking:** Provides updates on industry and governmental developments, and tracks global issuance of labeled green bonds
- **Develop trusted standards:** The Climate Bonds Standard was developed to provide clear sector-specific eligibility criteria for assets and projects. Issuers can engage 3<sup>rd</sup> party verifiers to certify pre- and post-issuance requirements are met
- **Policy models and advice:** Work closely with governments, issuer, underwriters and investors to develop policy proposals

Source: International Capital Market Association Green Bond Principles and Climate Bonds Initiative.

The green bond market is still young, and it is important that policymakers are not overly prescriptive, as this could increase the cost of issuance and stifle the market’s growth potential. However investors are going to need assurance that a bond issued in compliance with the Green Bond Principles is in fact going towards

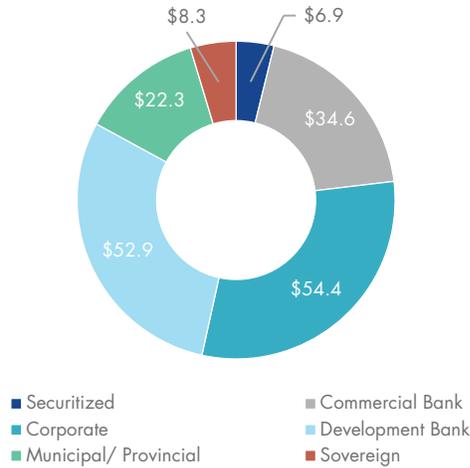
a green project, and green labeling is an excellent way to provide that confidence. Currently and for the foreseeable future, there is room for multiple frameworks to exist until market participants can agree upon a single set of criteria. We believe the work of the Climate Bonds Initiative is vital to establish market-wide standards, which will promote further market growth.

### The green bond market today

The first green bond was issued in 2007 by the European Investment Bank in response to an institutional investor’s request to finance environmentally friendly projects, which was followed shortly after by a green bond issued by the World Bank. In fact, in the first five years of the market’s existence, the green bond market consisted almost entirely of supranationals. The high credit quality of these issuers, as well as the ability to issue bonds large enough in size to attract institutional interest, has resulted in supranational issuers having a dominant role in the green bond market. This continues today. In addition, green bond issuance programs developed by these entities include clearly defined projects and governance requirements.

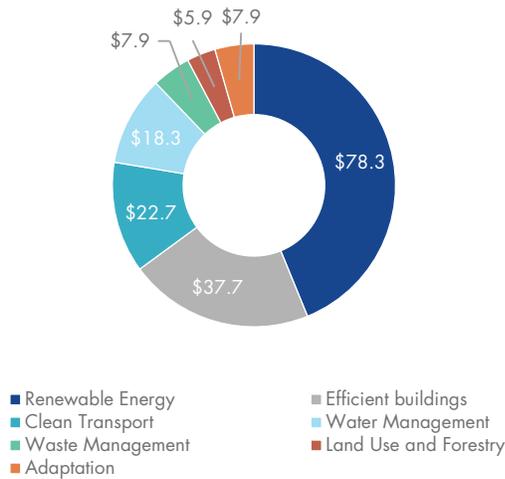
Corporate issuers such as Bank of America and the Electricite de France (EDF) began entering the market in 2013 with benchmark sized deals. These brought the green bond market into its current phase of growth. Following the adoption of the Green Bond Principles in 2014, which provided process and reporting guidelines for the use of proceeds of green bonds, issuance has surged. Since then, other household name corporate issuers such as Apple have increasingly become a larger part of the green bond market, and high yield corporate issuers have also had successful issuances, bringing increased diversity into the market.

Total Green Bonds Outstanding by Issuer Type



Source: Climate Bonds Initiative.

Total Green Bonds Outstanding by Use of Proceeds



Source: Climate Bonds Initiative.

In late 2016, Poland became the first sovereign issuer to bring a green bond to market, which was issued to finance various green projects within the country. The bond was three times oversubscribed.<sup>11</sup> Shortly after, in January 2017, France came to the market with a €7 billion green bond issue, which was notable not only for its size, but also its 22-year maturity, the longest maturity green bond issued to date.<sup>12</sup>

Increased issuance by sovereign and municipal issuers, as well as a potential increase in securitization are helping to bring added diversity to the green bond market, as well as increased liquidity. Further, issuers are exploring innovative financing structures such as guarantees and other credit enhancement mechanisms that may open up debt capital markets for issuers who otherwise may not have access or may not be able to afford green bond issuance. This is particularly important for issuers in emerging markets, where significant green investment is needed but to date, little financing has been made available.

### Government incentives to boost issuance?

Despite the rapid growth seen across the green bond market, it may not be enough to meet the climate goals set out by governments globally. In addition to creating clear definitions and standards to promote market confidence and transparency, government incentives may also be needed to spur further growth. Tax advantages for investors, similar to the benefits individual investors in U.S. municipal bonds receive, may be one option governments can explore. Alternatively, direct subsidies to issuers, preferential treatment for green bonds that are held on bank balance sheets, or preferential withholding tax rates are other avenues worth exploring. A massive increase in issuance, as well as a robust secondary market and additional ways for investors to access green bonds, are essential for continued market growth.

### Green bonds: the issuer perspective

Before we can discuss why investors may want to hold green bonds in their portfolio, it's important to consider an issuer's standpoint. An entity may issue a green bond to achieve environmental goals that it has adopted. Green bond issuance may also create goodwill by promoting a "green" public image. From a treasurer's perspective, issuing green bonds may allow an issuer to diversify its funding profile by attracting new types of investors.

Despite the increased disclosure necessary to issue a green bond, it is important to remember that from a legal standpoint, a green bond ranks equally in seniority with a conventional bond, all else being equal. The vast majority of green bonds are senior unsecured instruments, backed by the balance sheet of the issuer. Although proceeds are used to finance specific projects, investors generally have full recourse to the issuer rather than to specific assets (although it should be noted that project bonds, securitizations, and revenue bonds do exist, but in much smaller amounts).

However, when the additional costs associated with obtaining independent verification, ongoing reporting, and the auditing of the use of proceeds are considered, some issuers may choose to refrain from placing a green label on their bonds. This may explain why a much larger unlabeled green bond universe currently exists. Further, given the lack of clear definitions and standards for green bond issuance, some issuers may have liability concerns if the issuer’s definition of green does not coincide with that of an investor. Regulators have begun to take note, however, given government efforts to promote green finance as a way to combat climate change. For example, the Governor of the Bank of England and Chairman of the G20 Financial Stability Board, Mark Carney, recently called for establishing standard terms for the issuance of green bonds to promote market growth.<sup>13</sup>

Given the costs and concerns around potential liabilities, one might expect a lower cost of financing for issuers of green bonds as an incentive to participate in the market. However, this is not necessarily the case. Green bonds are generally priced the same as conventional bonds at issuance. There are a few reasons for this. First, green bonds are the same as conventional bonds, other than having a disclosed use of proceeds versus the more typical bond issuance from which proceeds are often used for general corporate purposes. From a credit standpoint, there is no justification for a different interest rate, all else equal. Second, the majority of investors, even those seeking green bonds, are typically not willing to sacrifice return to achieve their environmental investing objective. Third, many green bonds are purchased by traditional bond investors who may not even be aware of the green label.

There has been anecdotal evidence of a slight “green premium”, particularly in secondary markets. When this occurs, it is likely due to the high demand for green bonds from ESG-focused investors relative to the supply available. Further, this premium may exist in certain markets, such as Europe, where there is higher demand for green bonds rather than being a global phenomenon. To the extent that such a premium may exist, additional issuance to satisfy demand may remove any yield differential. On the other hand, if governments introduce subsidies or tax advantages, permanent pricing differentials may emerge.

Two examples are shown below comparing a green bond versus a conventional bond from the same issuer. Currency of issuance is the same, and maturities are within a few months of each other.

Of course, a more analytical comparison must account for all differences between issuances, including liquidity, optionality, investor base, benchmark inclusion, and other significant differences that may exist in the bond indenture. Such analysis is beyond the scope of this simple comparison. However, what is clear is that the pricing levels of green and conventional bonds have been very close and highly correlated. Further study is recommended to determine the potential effect on bond pricing of being green, both in primary and secondary markets.

Apple: Yield to Maturity Comparison



Source: Bloomberg. As of 1/31/2017. Past performance is no guarantee of future results.

KFW: Yield to Maturity Comparison



Source: Bloomberg. As of 1/31/2017. Past performance is no guarantee of future results.

## The investment case for green bonds

Beyond the desire to “do good”, is there an investment rationale for holding green bonds in an investor’s portfolio? Given that there is no clear systematic pricing difference between green bonds and conventional bonds, the case for holding green bonds begins with the rationale for holding any fixed income investment: primarily, income and relative safety versus other portfolio holdings.

### Where do green bonds fit within a portfolio?

The green bond market, as measured by the S&P Green Bond Select Index, which represents the investable global green bond market and includes all issuer types (excluding tax-exempt U.S. municipal bonds) across countries and currencies, generally resembles a high quality, core global bond allocation. With over 50% of its holdings rated AA and above, and nearly 40% U.S. dollar denominated, as well as a yield and duration profile similar to the Bloomberg Barclays Global Aggregate Bond Index, the green bond market has comparable risk and return characteristics as the broad global bond market. As a result, replacing a portion of a core global bond allocation may have minimal impact to an investor’s portfolio. Because of the differences in sector exposures, adding green bonds may increase the diversification of a global bond allocation. For example, supranational issuers represent approximately 20% of the green bond universe versus only 2% of the Global Aggregate Index.

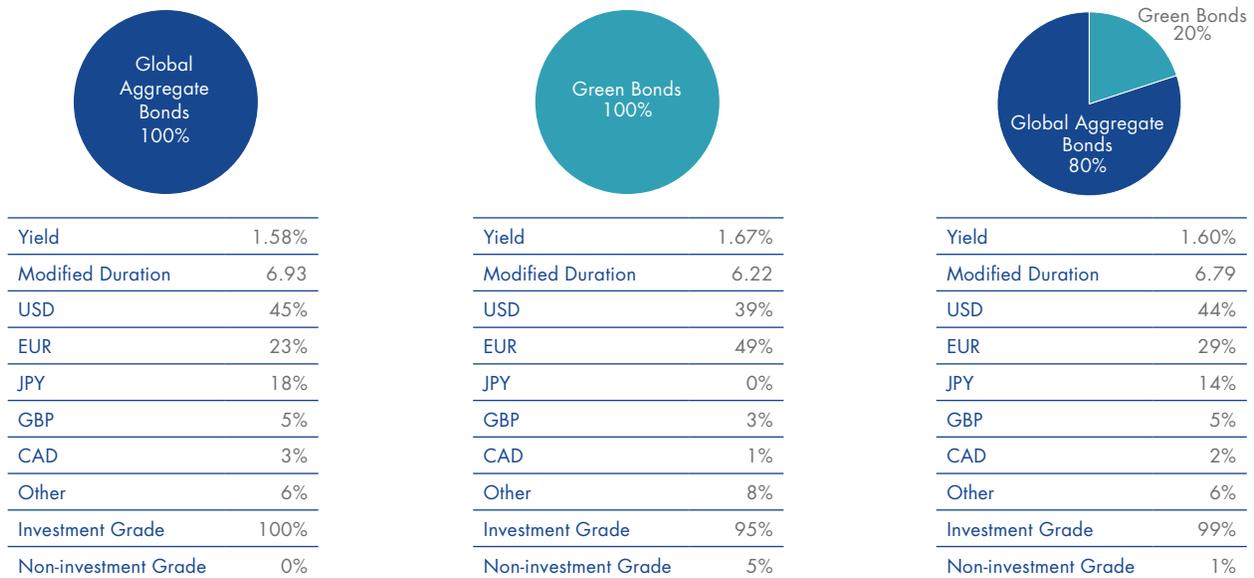
Given the overall high quality of the green bond universe, the primary risks to an investor are interest rate and foreign currency risk. In addition, green bonds have exhibited low historical correlation to the broad U.S. fixed income market, suggesting potential diversification benefits within a U.S.-focused portfolio.

## A potential hedge against climate risk

Lastly, for those who recognize the potentially significant effects that climate change may have on companies and governments in the future, the idea that adding exposure to green bonds may have minimal immediate impact to a portfolio’s risk and return profile may represent a “free option” to hedge climate-related risks. Green bond issuers are addressing these risk factors, and in the case of project or revenue bonds, bond payments are directly tied to a green project. In a world where investors start to place a significant price on environmental risks, green bonds may provide protection versus a bond portfolio that does not take these factors into account.

## Conclusion

As debt-burdened governments grapple with the massive challenges of addressing climate change, private capital must play an integral role in financing the infrastructure needed to transition to a low carbon economy. Government actions to promote green finance and continued development of green bond market standards will likely drive the growth that’s needed. As a result, we expect green bonds to make up an increasingly larger share of the overall global debt market, and consequently, within investors’ core fixed income portfolios. The significant growth already experienced in the green bond market has started to attract interest not only from ESG-focused investors, but also traditional fixed income investors who previously did not have an efficient way to “green” their portfolios. With green bonds, fixed income investors are finding that they can fulfill their investment objectives while still making a positive impact.



Source: S&P Dow Jones Indices, Bloomberg Barclays and Morningstar, as of 2/28/2017. Green Bonds are represented by the S&P Green Bond Select Index. Global Aggregate Bonds are represented by the Bloomberg Barclays Global Aggregate Bond Index. See index definitions in Important Definitions and Disclosures.

## Endnotes

- <sup>1</sup> Climate Bonds Initiative
- <sup>2</sup> Moody's: Record Year for Green Bonds likely to Be Eclipsed Again in 2017. January 18, 2017.
- <sup>3</sup> Climate Bonds Initiative. Bonds and Climate Change: The State of the Market In 2016.
- <sup>4</sup> Pure-play is defined as a company that is focused on only one industry or product.
- <sup>5</sup> Intergovernmental Panel on Climate Change AR5 Working Group 1: Climate Change 2013: The Physical Science Basis
- <sup>6</sup> NASA, NOAA Data Show 2016 Warmest Year on Record Globally. Earth's 2016 surface temperatures were the warmest since modern recordkeeping began in 1880, according to independent analyses by NASA and the National Oceanic and Atmospheric Administration (NOAA).
- <sup>7</sup> Climate Bond Initiative, based on International Energy Agency and New Climate Economy estimates
- <sup>8</sup> International Monetary Fund (IMF)
- <sup>9</sup> Bank of International Settlements (BIS)
- <sup>10</sup> Moody's: Record Year for Green Bonds likely to Be Eclipsed Again in 2017. January 18, 2017.
- <sup>11</sup> Climate Bonds Initiative: Poland wins race to issue first green sovereign bond. A new era for Polish climate policy? December 15, 2016.
- <sup>12</sup> Reuters: France enters green bond market with 22-year maturity: AFT. January 23, 2017.
- <sup>13</sup> Reuters: Bank of England's Carney calls for progress on green bonds. September 22, 2016.

## Important Definitions and Disclosures

Nothing in this content should be considered a solicitation to buy or an offer to sell shares of any investment in any jurisdiction where the offer or solicitation would be unlawful under the securities laws of such jurisdiction, nor is it intended as investment, tax, financial, or legal advice. Investors should seek such professional advice for their particular situation and jurisdiction.

**Correlation** measures the degree to which two securities move in relation to each other. **Yield to Maturity** is the total return anticipated on a bond if the bond is held until the end of its lifetime. **Diversification** does not assure a profit or protect against loss. **The S&P rating scale** is as follows, from excellent (high grade) to poor (including default): AAA to D, with intermediate ratings offered at each level between AA and C. Anything lower than a BBB rating is considered a non-investment-grade or high-yield bond.

Index returns are not Fund returns and do not reflect any management fees or brokerage expenses. Investors cannot invest directly in the Index. Returns for actual Fund investors may differ from what is shown because of differences in timing, the amount invested and fees and expenses. Index returns assume that dividends have been reinvested.

Bloomberg Barclays Global Aggregate Bond Index tracks investment-grade debt from twenty-four local currency markets, and is comprised of treasury, government-related, corporate, and securitized fixed-rate bonds from developed and emerging markets issuers.

S&P Green Bond Select Index tracks bonds issued globally to finance environmentally friendly projects. To be eligible, the bond issuer must clearly indicate the intended use of proceeds and be flagged as "green" by the Climate Bonds Initiative, and meet minimum size requirements based currency. The index includes treasuries, government-related, corporate and securitized issues.

S&P DOW JONES INDICES DOES NOT GUARANTEE THE ADEQUACY, ACCURACY, TIMELINESS AND/OR THE COMPLETENESS OF THE INDEX OR ANY DATA RELATED THERETO OR ANY COMMUNICATION, INCLUDING BUT NOT LIMITED TO, ORAL OR WRITTEN COMMUNICATION (INCLUDING ELECTRONIC COMMUNICATIONS) WITH RESPECT THERETO. S&P DOW JONES INDICES SHALL NOT BE SUBJECT TO ANY DAMAGES OR LIABILITY FOR ANY ERRORS, OMISSIONS, OR DELAYS THEREIN. S&P DOW JONES INDICES MAKES NO EXPRESS OR IMPLIED WARRANTIES, AND EXPRESSLY DISCLAIMS ALL WARRANTIES, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE OR AS TO RESULTS TO BE OBTAINED BY VANECK, OWNERS OF THE FUND, OR ANY OTHER PERSON OR ENTITY FROM THE USE OF THE INDEX OR WITH RESPECT TO ANY DATA RELATED THERETO. WITHOUT LIMITING ANY OF THE FOREGOING, IN NO EVENT WHATSOEVER SHALL S&P DOW JONES INDICES BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES INCLUDING BUT NOT LIMITED TO, LOSS OF PROFITS, TRADING LOSSES, LOST TIME OR GOODWILL, EVEN IF THEY HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, WHETHER IN CONTRACT, TORT, STRICT LIABILITY, OR OTHERWISE. THERE ARE NO THIRD PARTY BENEFICIARIES OF ANY AGREEMENTS OR ARRANGEMENTS BETWEEN S&P DOW JONES INDICES AND VANECK, OTHER THAN THE LICENSORS OF S&P DOW JONES INDICES.