

SUSTAINABLE INVESTING REPORT 2020

MARCH 2021

**York University Endowment Fund
Board Investment Committee**



SUSTAINABLE INVESTING REPORT

Background

In 2018, the Board approved revisions to the Endowment's Statement of Investment Policies and Procedures (SIPP) to reflect the University's commitment to sustainable investing. During the ensuing years, York has become a founding member of the University Network for Investor Engagement (UNIE), and is a member in good standing for the Responsible Investment Association (RIA), the Canadian Coalition for Good Governance (CCGA), and the Carbon Disclosure Project (CDP).

York's sustainable investing strategy integrates environmental, social and governance (ESG) factors in the overall management of its endowment portfolio. The University believes that these factors can affect risks and returns, and that organizations that effectively manage ESG factors are more likely to endure and create sustainable value over the long term. The University's approach to sustainable investing is evolving, and one that will adapt as the linkage between ESG factors and, risks and returns become better understood over time.

The University also believes active engagement through its investment managers is an effective approach in assessing ESG factors, and that an active approach will generate better and sustainable returns relative to a negative screening process, which would arbitrarily exclude certain investments.

The Sustainable Investing Report reflects the University's pledge to report to the community on how the University integrates ESG practices in the management of its portfolio.

YORK'S COMMITMENT

York University's commitment states that:

- 1. The University will monitor Investment Manager ESG integration and engagement on a regular basis. Such monitoring will include an annual reporting process to the University on incorporation of ESG factors by Investment Managers.**
- 2. The University will report annually to the University community, as part of its overall reporting of investment performance, on how managers incorporate ESG factors in their evaluation process.**

Investment managers are required to provide the University with information on the following:

- i. An enumeration of ESG factors that were incorporated in the investment decision-making and portfolio construction for York’s investment, such as a particular ESG category or categories (i.e. environmental, social, or governance) and/or specific factors within those categories;
- ii. An explanation of the methodology used to incorporate these ESG factors;
- iii. A description of the scope of the application of ESG factors (i.e. are these factors applied to the entire portfolio, or only certain sectors, or types of investments?); and
- iv. A copy of any ESG or related policies that they have, that apply to York’s investment.

The scope of the request for 2020 was expanded to include York’s real estate managers and these managers have provided York with responses to those questions for this year’s publication. Since York’s equity and fixed income managers have reported on the above in previous reports (2018, 2019); those managers were asked to provide the following for the 2020 report:

- i. An update on ESG integration for their investment strategy.
- ii. A carbon footprint of their portfolio in the form of its carbon intensity reading.
- iii. A summary of future ESG and sustainability initiatives.

United Nations Principles for Responsible Investment

All of York’s investment managers abide by the six United Nations Principles for Responsible Investment (UN PRI), listed below.

- **Incorporate ESG issues into investment analysis and decision-making processes.**
- **Be active owners and incorporate ESG issues into their ownership policies and practices.**
- **Seek appropriate disclosure on ESG issues by the entities in which they invest.**
- **Promote acceptance and implementation of the Principles within the investment industry.**
- **Work together to enhance the effectiveness in implementing the Principles.**
- **Report on activities and progress towards implementing the Principles.**

The PRI represents a framework "by which all investors can incorporate ESG issues into their decision-making and ownership practices and so better align their objectives with those of society at large" (<http://www.unpri.org>).

The responses to York University’s Endowment Investment Managers appear in the following order:

Investment Manager	UN PRI Signatory	Date Signed
Equity Managers		
1. Baillie Gifford	Yes	26 June 2007
2. C Worldwide	Yes	21 December 2011
3. Harris Associates LP	Yes	12 February 2019
4. Lazard Asset Management LLC	Yes	11 December 2014
5. Morgan Stanley Investment Management	Yes	26 July 2018
6. TD Asset Management	Yes	3 July 2008
7. Unigestion	Yes	25 March 2013
Fixed Income Managers		
1. RBC Global Asset Management	Yes	26 August 2015
2. Manulife Asset Management	Yes	1 December 2015
3. Stone Harbor Investment Partners LP	Yes	21 June 2012
Real Estate Managers		
1. BentallGreenOak	Yes	13 March 2008
2. Landmark Partners	Yes	10 October 2016

CONCLUSION

The endowment’s investment portfolio will continue to evolve with greater emphasis placed on investing sustainably. The Endowment Fund’s investment committee has committed a 10% allocation of the fund to sustainable focused infrastructure. Current and future investment managers are expected to demonstrate a commitment to ESG principles and sustainability. Each of the current portfolio managers integrate ESG principles in their investment decisions to varying degrees, using their own philosophy and methodologies.

This report demonstrates the commitment of York’s investment portfolio managers to actively manage ESG risks in their investment decisions and build upon those approaches. The responses from York’s investment managers follow.

INVESTMENT MANAGER ESG INTEGRATION

Baillie Gifford – Global Equity Manager (Long Term Global Growth Fund (LTGG))

2020 Developments

In 2020, Baillie Gifford commissioned an independent climate change expert to review holdings within the portfolio to deeply examine climate-related opportunities and threats. This work is continuing in 2021 and Baillie Gifford will report further on preliminary findings later in the year. Baillie Gifford's dedicated Governance and Sustainability team has grown to include 24 individuals (more than doubling in number since 2017) and works closely with all the firm's investment teams through internal discussions, debate and collaboration. This has enabled the Governance and Sustainability team to produce more thematic and company analyses on ESG issues, and to increase the level of coverage across all portfolios, including the LTGG.

In 2020 Baillie Gifford welcomed the publication of the Institutional Investors Group on Climate Change (IIGCC) Net Zero Framework which provides guidance for investors seeking to align portfolios with the Paris climate agreement.

Carbon Intensity

Baillie Gifford views carbon footprinting as a useful tool in understanding a portfolio from a carbon perspective but does not set a target, as a footprint number will fluctuate over time for reasons that do not indicate improvement or deterioration in the carbon efficiency of portfolio companies. The carbon intensity of LTGG portfolio as of December 31, 2020 was 13.8 tons of carbon dioxide equivalent (tCO₂e) per C\$ 1M revenue vs. 137.2 tCO₂e per C\$1M revenue for the MSCI ACWI benchmark.¹

Future Developments

Baillie Gifford became an official supporter of the Task Force on Climate-related Financial Disclosures (TCFD) in 2020 and will be aligning its own reporting with the TCFD recommendations over the course of 2021. Baillie Gifford's governance and sustainability documents are available [online](#).

¹ Based on the ISS-Ethix Climate Solution carbon footprinting tool, MSCI ACWI = Morgan Stanley Capital International All Country World Index

C Worldwide – Global Equity Manager (Global Equities)

2020 Developments

During Q2 2020, C WorldWide Asset Management (CWW AM) became official supporters of the TCFD. CWW AM believes the integration of ESG in the investment process is valuable to identify material risk and opportunities but is reliant on consistent and standardized reporting from the investee companies to make those decisions. CWW AM feels the TCFD recommendations work to encourage exactly that and will enable CWW AM to make better informed investment decisions.

Carbon Intensity

CWW AM equity pool's carbon intensity was reported as 67.6 tCO₂e per US\$ 1M revenue.²

Future Developments

CWW AM believes two developments will force companies on a more sustainable path in 2021 and beyond:

1. Countries (e.g. New Zealand, European nations) mandating that climate disclosures are in line with TCFD standards.
2. Climate Action 100+ to release a Net Zero Company Benchmark in 2021 to assess company progress on climate action. The ambition is to push companies to set net zero emission targets that include scope 3 emissions and alignment with 1.5°C global warming trajectory using TCFD and Science-Based targets (SBTi).

CWW AM's sustainable investing and stewardships documents are available [online](#).

² Source: Pier 21 C Worldwide ESG Annual Report. Carbon data from South Pole, yourSRI.

Harris Associates – Oakmark Global Pooled Fund (Global Equities)

2020 Developments

Harris continues to use ESG factors as an integral part of its investment process, and to evolve its ESG approach in response to underlying issues. Harris made progress on a number of specific areas in 2020, including adding a new carbon and climate data feed from Institutional Shareholder Services (ISS), hiring a Director of Responsible Investing, becoming a supporter of the Transition Pathway Initiative, and publishing a Climate Policy on its [website](#).

Carbon Intensity

Harris' Oakmark Global Pooled Fund's weighted average carbon intensity was reported as 57.91 tCO₂e per C\$ 1M revenue as at December 31, 2020.³

Future Developments

Harris intends to continue its ESG journey in 2021, with various initiatives. These include enhancing its process to prioritize and track ESG-related engagements; sourcing new ESG data for use in the investment research process; updating the proxy voting policy; and aligning the company's climate risk governance, strategy, and risk management with the recommendations of the TCFD.

³ Source: ISS ESG Climate Impact Assessment.

2020 Developments

There were no changes to Lazard’s Global Equity Franchise’s investment philosophy or portfolio construction process in 2020. The investment process for the Lazard Global Equity Franchise strategy hinges on the long-term valuations of companies. Analysis for each company is conducted from a bottom-up perspective. The company valuations take into account all factors at the security level that Lazard’s analysts think will have a financial impact, including those associated with ESG. Lazard may choose not to own a particular company due to an ESG issue or may adjust the position size or target price to reflect the ESG risk. While a portfolio manager/analyst is never prohibited from purchasing or holding a position due to an ESG issue, those issues are considered as part of the investment decision. ESG factors described are applied across the entire portfolio but, there are certain sectors (tobacco, energy, mining) which are removed or subject to additional scrutiny due to environment, societal license, and other ESG issues.

Carbon Intensity

Lazard’s Global Equity Franchise’s carbon intensity was reported as 95.3 tCO₂e per US\$ 1M revenue as at December 31, 2020.⁴

Future Developments

Lazard has made the following documents available to the public:

- [Sustainable Investment Report](#)
- [ESG Policy](#)
- [Climate Change Investment Policy](#)
- [Proxy Voting Policy](#)
- [Engagement Policy](#)

⁴ Source: Sustainalytics Carbon Portfolio Report.

Morgan Stanley Investment Management – Global Opportunity Fund (Global Equities)

2020 Developments

In 2020, Morgan Stanley Investment Management (MSIM) hired a Global Head of Sustainability and established a centralized Sustainability team. MSIM also joined the One Planet asset manager initiative. Following the 2015 Paris Agreement to collectively mitigate the effect of climate change, the One Planet Summit was held on December 12, 2017. At that time, the One Planet initiative was established by a group of six sovereign wealth funds to accelerate the transition to a low-carbon economy. Eight asset managers launched the One Planet Asset Manager (OPAN) program in 2019, which MSIM subsequently joined in 2020.

Morgan Stanley Investment Management (MSIM) engaged with portfolio companies in 2020 on various topics, including:

- Leadership Transition, Technology Risk Management and Financial Inclusion in Banking
- Sustainability Strategy and Management Incentives in Enterprise Software
- Culture, Diversity and Inclusion, and Sustainability Strategy at an Audio Streaming Platform
- Carbon Efficiency and Driver Well-Being in Ride-booking and Food Delivery
- Tobacco

Carbon Intensity

MSIM's Global Opportunity Fund's carbon intensity was reported as 12 tCO₂e per US\$ 1M revenue as at December 31, 2020.⁵

Future Developments

MSIM's annual [ESG and Sustainable Investing Report](#) is available to the public. It summarizes engagement initiatives with portfolio companies and the Global Opportunity Fund's carbon intensity.⁶

⁵ Source: MSIM, Carbon Disclosure Project, MSCI ESG Research LLC. Data is based on an estimate of scope 1 and 2 carbon emissions.

⁶ https://www.morganstanley.com/im/publication/insights/investment-insights/ii_esgandsustainableinvestingreport_us.pdf

TD Asset Management – Low Volatility Global Equity Fund (Global Equities)

2020 Developments

TD Asset management (TDAM) updated its Sustainable Investing Approach and has recently staffed a dedicated ESG Research and Engagement team to ensure consistency in the firm's ESG approach across all asset classes. TDAM became a signatory to the RIA Canadian Investor Statement on Diversity and Inclusion (D&I). By signing on, TDAM will look to advance D&I within the firm and its investments.

Carbon Intensity

TD Emerald Low Volatility All World Equity Pooled Fund Trust carbon intensity was reported as 571.77 tCO₂e per US\$ 1M revenue as at December 31, 2020 versus 171 tCO₂e per US\$ 1M revenue for its benchmark.⁷ TDAM stated that the majority of carbon intensity in the portfolio stems from utility holdings.

Future Developments

TDAM plans to advance board gender diversity within proxy voting and has signed onto the 30% Club Canadian Investor Group's Statement of Intent. Membership of the Canadian 30% Club Investor Group shows commitment to exercising rights to encourage increased representation of women on corporate boards and in executive management positions in Canada. In 2021, TDAM will vote against all incumbent members of the nominating committee if less than 30% of the board is represented by women. If there are no incumbent nominating committee members up for election or if the board does not maintain a nominating committee, TDAM will vote against all incumbent members of the board.

TDAM's [Sustainable Investing Policy](#) is available to the general public, as are TDAM's Responsible Investing Transparency Reports.⁸

⁷ Data provided by TDAM.

⁸ TDAM's Responsible Investing Transparency Reports in support of UN PRI and Sustainable Investing Policy are available at this link https://www.tdaminstitutional.com/tmi/content/AU_CorpVision?language=en_CA

Unigestion – All Country World Equities Fund (Global Equities)

2020 Developments

Over the course of 2020, a number of enhancements were made in terms of Unigestion's ESG integration. Unigestion's analysts developed a methodology to assess the alignment of its equity portfolios with respect to a Paris Agreement trajectory of well below 2°C. The firm developed a methodology to determine climate scenario analysis for companies using the World Induced Technical Change Hybrid (WITCH) model developed by the European Institute on Economics and the Environment based on six distinct scenarios for the years 2020 to 2100, which Unigestion incorporates into forward-looking analysis. Unigestion recognizes climate-related risks as part of the companies' risk profile and excludes any company with a carbon intensity of more than 3,000 tCO₂e /US\$ 1M in revenues within the global universe. That target was implemented in Q1, 2020.

Carbon Intensity

Unigestion All Country World Equities Fund carbon intensity was reported as 106 tCO₂e per US\$ 1M revenue as at December 31, 2020 versus 226 tCO₂e per US\$ 1M revenue for the MSCI AC World benchmark.⁹

Future Developments

Unigestion will continue to enhance its Policy in 2021 to meet responsibilities as set out under the Sustainable Finance Disclosure Regulation (SFDR) that comes into effect on 10 March 2021. Unigestion plans to roll out the first round of climate scenario analysis on its equities portfolios to measure the firm's alignment with the Paris Agreement. Unigestion also plans to support the TCFD, and provide more meaningful carbon reporting by including Scope 3 emissions as well as by using ownership instead of weighted average intensity.

Unigestion's [responsible investment policies and reports](#) are available to the public.

⁹ Source: Trucost. Unigestion calculations. Direct and First Tier Indirect. Direct emissions are the greenhouse gases emitted by the reporting entity (equivalent to the Greenhouse Gas Protocol's scope 1 emissions). First-tier indirect emissions are the greenhouse gases emitted by an entity's first-tier suppliers. This will include scope 2 and some upstream scope 3 emissions.

RBC Asset Management – Bespoke Fixed Income Portfolio (Global Fixed Income)

2020 Developments

The global fixed income (GFI) mandate managed under RBC Asset Management (RBC GAM)'s umbrella portfolio incorporates BlueBay and Philips Hagar & North (PH&N) strategies.

BlueBay: there was a review of its ESG Investment Policy which was finalized in June 2020. BlueBay continued to develop ESG investment data infrastructure during 2020 resulting in the migration of corporate issuer ESG evaluations into a centralized credit research platform, the Alpha Research Tool (ART), with the plan to migrate sovereigns (i.e. sovereign nation fixed income securities) in Q4 2020.

PH&N: Mortgage Investment Team worked with RBC's Corporate Governance and Responsible Investment (CGRI) group to conduct geospatial analysis across the PH&N Mortgage Funds. The focus of this analysis was to determine the exposure to climate change, and more specifically to flood risk and fire risk across different climate scenarios.

Carbon Intensity

RBC GAM's GFI mandate's carbon intensity was calculated as 389.67 tCO₂e per US\$ 1M revenue as at December 31, 2020 based on the weighted average of allocation to BlueBay and PH&N funds. The carbon intensity measurements (based on scope 1 and 2 emissions) and has been arrived at with different methodologies for the BlueBay and PH&N funds.¹⁰¹¹

Future Developments

RBC GAM became a formal supporter of the TCFD and is committed to publish its first RBC GAM 2020 TCFD Report in Early 2021.

RBC GAM's [Approach to responsible investment](#) and [Stewardship in action](#) documents are available for review.

¹⁰ BlueBay: All holdings as at 31.12.2020. MSCI ESG Research. Analysis based on issuers and subsidiaries. Most measures in the MSCI carbon analysis use an equity ownership methodology that is not applicable to fixed income investments, and the inclusion of Fixed income securities in a portfolio may lead to misleading results for those measurements.

¹¹ PH&N: All holdings as at 31.12.2020. MSCI ESG. Carbon Intensity is calculated tones/\$1million USD in Sales. Sales figures used to calculate carbon intensity sourced from MSCI ESG. Emissions data year is latest on record from MSCI ESG, and in all cases came from 2014,2016,2017,2018, 2019, or 2020. Includes scope 1 + 2 emissions. Where a company does not report its own emissions, MSCI ESG provides a proprietary estimate. Securities where MSCI ESG did not provide scope 1 + 2 emissions data were dropped from the analysis.

Manulife– Strategic Fixed Income Strategy (Global Fixed Income)

2020 Developments

For Manulife Investment Management (MIM), ESG is integrated in three broad stages of the investment process.

- i. ESG Due Diligence: investment team considers ESG factors which may be material to its investment view of a company during initial and ongoing due diligence, leveraging third party ESG research data and the expertise of our ESG Research and Integration Team.
- ii. ESG Risk Monitoring: ESG data is leveraged in daily and periodic risk processes and includes a highlighting of positions with low ESG scores, and meetings between the investment team and an ESG analyst to discuss portfolio-level ESG exposures.
- iii. Active Ownership: Based on processes (i) and (ii) the team may enter engagements with the purpose of encouraging the company to adopt certain practices related to management of ESG factors.

Carbon Intensity

MIM Strategic Fixed Income Strategy's weighted average carbon intensity was calculated as 554.8 tCO₂e per US\$ 1M revenue as at December 31, 2020. The figure incorporated scope 1 & 2 and the upstream from scope 3. MIM stated that the majority of carbon intensity in the portfolio stems from utility holdings.

Future Developments

In 2021 MIM is a participating member of the United Nations Environment Programme Finance Initiative (UNEP FI) TCFD pilot project with the goal to enhance MIM's own TCFD reporting and provide usable output for industry participants.¹² In addition, MIM is launching an environmental portfolio for investors seeking to align their portfolios with the overarching goal of curbing carbon emissions rapidly as per the Paris Agreement.

MIM's [Environmental, Social and Governance Policy](#) and [Sustainable and responsible investing report](#) documents are available for review.

¹² Information on UNEP FI can be found here <https://www.unepfi.org/>

Stone Harbor Investment Partners LP – High Yield Bond Fund (Global High Yield)

2020 Developments

Stone Harbor has integrated issuer-level data from ESG data provider Sustainalytics into its proprietary risk management system, which allows the investment team to efficiently access a broader set of ESG data for independent investment analysis, portfolio construction and risk analytics. For corporate bonds, the investment team has developed an internal scoring system. Analysts seek to document relevant engagements with management, perform due diligence on each portfolio credit, and monitor and encourage both adherence to specific ESG criteria and improvement in performance relative to relevant benchmarks, appending research notes to the rating template of each credit issuer. In addition, Stone Harbor has pledged support for the Diversity Project, a cross-company initiative championing a more inclusive culture within the Savings and Investment profession.

Carbon Intensity

Stone Harbor's Global High Yield Fund's carbon intensity was calculated as 447 tCO₂e per US\$ 1M revenue as at December 31, 2020, compared to an index value of 367 tCO₂e per US\$ 1M revenue.

Future Developments

Stone Harbor has broadened ESG analysis to include corporate carbon emissions data and is in the process of implementing portfolio-level reporting for carbon metrics such as weighted average carbon intensity, as provided for the York University Endowment portfolio. While the coverage falls short of 100%, Stone Harbor is able to weigh the degree of corporate integration as a factor for ESG scores on a company-by-company basis. In addition, for sovereign issuers, Stone Harbor can report greenhouse gas (GHG) emissions. At this time, the firm has not formulated reduction targets in portfolios.

Stone Harbor's updated [ESG Policy](#) is available for public review.

BentallGreenOak – Prime Canadian Fund (Real Estate)

Enumeration of ESG Factors

As part of the investment decision-making and portfolio construction process, various ESG indicators are evaluated such as climate risk, building certifications, energy performance, environmental risk, controversial tenants, labour relations, social impact, renewable energy, and proprietary technology.

Explanation of methodology

BentallGreenOak (BGO) utilizes a proprietary ESG Risk Matrix, developed in alignment with international best practices such as the UN Sustainable Development Goals (SDGs). As part of the ESG due diligence during the acquisition process, BGO evaluates sustainability metrics including energy performance if available, and the opportunity to attain, third-party certifications. BGO carries out environmental risk assessments as part of the acquisition due diligence process. Careful consideration is given to green building certifications, Walk Scores, transit scores, and Central Business District (CBD) focused real estate. BGO focuses on communities where innovation is helping local economies flourish, and where talented employees are increasingly choosing to live, work, and play, as well as cities that offer a sustainable lifestyle.

Application of ESG Factors

- i. Actively manage climate risk through data driven insights, and stakeholder engagement to enhance the resilience of long-term investments.
- ii. Implement commercially prudent measures to minimize sustainability-related risk for client portfolios.
- iii. Execute industry-leading programs aimed at reducing energy, water, waste and GHG emissions within the organization and investment portfolio.
- iv. Achieve third-party certification and recognition to improve quality control, transparency, and asset sustainability.
- v. Provide sustainable investing leadership and innovation in the global real estate industry.
- vi. Foster occupant and community engagement in order to achieve sustainable goals by being proactive.

Reporting

BentallGreenOak's sustainable investing portal can be accessed [here](#).

Landmark Real Estate Partners – VIII Fund (Real Estate)

Enumeration of ESG Factors

The majority of Landmark Partners investments are in the secondary market where the firm assumes ownership stakes in hundreds of partnerships and thousands of underlying assets. Landmark believes that effectively integrating ESG consideration into its investment process supports its mission to deliver consistent and strong risk-adjusted returns.

Explanation of methodology

It is Landmark's preference to invest in underlying funds that demonstrate a commitment to standards of good conduct, and demonstrate performance beyond minimum standards, including ESG areas, namely the environment (e.g. pollution and waste), social (e.g. labour laws, health and safety, human rights), and governance (e.g. anti-bribery and corruption, ethics, accounting) impacts.

Application of ESG Factors

Landmark will use influence with fund sponsors and investment managers to encourage best practices aligned with ESG considerations. Landmark's diligence process aims to develop an understanding of investment exposures and risks. Data is aggregated through review of fund reporting, direct interaction with fund sponsors, market research, and utilization of Landmark's network of market professionals. Fund sponsors and investment managers are requested to provide information regarding their ESG policies during Landmark's diligence process. Results are incorporated in the Investment Memo and logged in Landmark's investment evaluation files.

Reporting

Landmark's ESG policy can be accessed [here](#).

Carbon Intensity

Carbon Intensity Reported by Investment Managers

In April 2017, MSCI conducted a carbon portfolio analysis of York Endowment Fund's equities. The Carbon Intensity of the equities was measured as 325.0 tCO₂e per US\$ 1M revenue as at December 31, 2016, compared to an MSCI ACWI (index) value of 236.1 tCO₂e per US\$ 1M revenue.¹³ For 2020, after normalizing for values in US dollars and taking into account the allocations to respective equity managers in the Endowment Fund at 2020 year end, the Carbon Intensity of the York's Global Equity portfolio was 114.5 tCO₂e per US\$ 1M revenue, representing a 64.7% decrease from the 2016 year end value of 325.0 tCO₂e per US\$ 1M revenue.

York Endowment Fund (Equities)	
Year	Carbon Intensity t CO ₂ e / US\$M Sales
2016	325.0
2020	114.5

The Carbon Intensity data for equity and fixed income managers is provided below for information. These measurements are a snapshot in time and subject to change. Data is dependent on the methodology of the respective service provider, portfolio composition, the asset class in question, and the scope of emissions (1, 2, and 3) used.

Investment Manager	Carbon Intensity t CO ₂ e / US\$M Sales
Equity	
Baillie Gifford	17.6
C Worldwide	67.6
Harris	59.4
Lazard	95.3
Morgan Stanley	12.0
TDAM	571.8
Unigestion	106.0
Equity (Wt. Avg)	114.5
Fixed Income	
RBC GAM	390

¹³ The report also stated that the Weighted Average Carbon Intensity value was 427.9 tCO₂e per US\$ 1M revenue versus an MSCI ACWI (index) value of 222.3 tCO₂e per US\$ 1M revenue.

Manulife	555
Stone Harbor	447
Fixed Income (Wt. Avg)	461

Fixed Income as an asset class is more difficult to assess than equities given that fixed income portfolios hold sovereign bonds. Sovereign bonds are financial instruments that provide capital to national governments, which makes the emissions associated with them the primary focus of a sovereign bond carbon footprint analysis. However, there are varying opinions on the appropriate scope at which to consider a country's GHG emissions based on carbon accounting protocols.

When a sovereign bond is assessed, it is necessary to question whether double counting of emissions from the sovereign nation's private and household sectors has been avoided.

A few of the many questions to consider are:

- Can different sectors of an economy be separated?
- Should emissions created domestically but then exported (e.g. coal, liquified natural gas, crude oil) be considered as part of the carbon footprint? What about imports of goods created internationally but consumed domestically?
- Should there be normalization of emissions to help compare economics of different sizes, wealth, structure?

A resource on the challenges of sovereign bond carbon footprint determination is available [here](#).¹⁴

¹⁴ Desme, G., & Smart, L. (2018, June). Accounting for Carbon: Sovereign Bonds. Longfinance.Net. https://www.longfinance.net/media/documents/education-accounting-for-carbon-sovereign-bonds_v3.pdf

Appendix

Glossary

Carbon intensity: Carbon intensity is the measure of CO₂ produced per dollar of GDP. In other words, it's a measure of how much CO₂ is emitted per dollar generated in the economy. A rapidly decreasing carbon intensity is considered a positive for the environment and the economy. Energy consumption is growing increasingly efficient and that less production and consumption is based on burning fossil fuels.

Greenhouse Gas (GHG): Greenhouse gases are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of thermal infrared radiation emitted by the Earth's surface, the atmosphere itself, and by clouds.

Scope 1, 2 & 3: Three “scopes” (scope 1, scope 2, and scope 3) are defined for GHG accounting and reporting purposes.

Scope 1 – Direct GHG Emissions: Direct GHG emissions occur from sources that are owned or controlled by a company, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.; emissions from chemical production in owned or controlled process equipment. Direct CO₂ emissions from the combustion of biomass shall not be included in scope 1 but reported separately. GHG emissions not covered by the Kyoto Protocol, e.g. CFCs, NO_x, etc. shall not be included in scope 1 but may be reported separately.

Scope 2 – Electricity Indirect GHG Emissions: Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by a company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where electricity is generated.

Scope 3 – Other Indirect GHG Emissions: Scope 3 emissions are a consequence of the activities of the company but occur from sources not owned or controlled by the company. Some examples of scope 3 activities are extraction and production of purchased materials; transportation of purchased fuels; and use of products and services.

TCFD: The [Financial Stability Board](#) established the TCFD to develop recommendations for more effective climate-related disclosures that could promote more informed investment,

credit, and insurance underwriting decisions and, in turn, enable stakeholders to understand better the concentrations of carbon-related assets in the financial sector and the financial system's exposures to climate-related risks. For more information on the TCFD go [here](#).