JANUARY 2022

Impact Report

Sustainable Thematic Funds: Greenchip Global Environmental All Cap Fund and Global Green Bond Fund

MACKENZIE Investments

Overview

We're on a mission to make it easy for institutions, advisors and investors to integrate sustainable solutions into their portfolios.

Mackenzie's range of sustainable solutions offers diverse approaches to tackling environmental, social and governance (ESG) issues.

Range of Approaches to Sustainable Solutions

Sustainable Core	Sustainable Thematic	Sustainable Impact
Investments that prioritize companies with positive ESG practices that are expected to enhance value	Investments that target specific ESG macro-trends that generate competitive returns	Investments that target ESG or sustainability outcomes while generating financial returns
Mackenzie Global Sustainable Balanced Fund Mackenzie Betterworld Global Equity Fund and Mackenzie Betterworld Canadian Equity Fund Mackenzie Global Sustainable Bond Fund and Mackenzie Global Sustainable Bond ETF	Mackenzie Greenchip Global Environmental All Cap Fund Mackenzie Greenchip Global Environmental Balanced Fund Mackenzie Global Green Bond Fund	Mackenzie Global Women's Leadership Fund and Mackenzie Global Women's Leadership ETF

Exclusions

At Mackenzie, sustainable investing solutions exclude companies with involvement in controversial weapons, adult entertainment or pornography, gambling, tobacco or private prisons. To learn more about our exclusions, see our **Sustainable Investing Policy**.

Sustainable Thematic Funds

Fund	Inception Date	Assets Under Management (C$M)*
Mackenzie Greenchip Global Environmental All Cap Fund	Sept 28, 2018	1,878.9
Mackenzie Greenchip Global Environmental Balanced Fund	April 9, 2021	70.0
Mackenzie Global Green Bond Fund	Oct 19, 2021	34.7

* *Assets under management as at Dec. 31, 2021.*

Ratings and Scores

In this report, we publish Mackenzie mutual fund and ETF ratings from MSCI, Morningstar and Sustainalytics, where available.

MSCI ESG Fund ratings are based on MSCI's ESG methodology to determine how effectively a fund is taking advantage of opportunities and mitigating risks in its portfolio. Ratings are assigned the following letter grades: CCC, B (laggards), BB, BBB, A (average) and AA, AAA (leaders).

Morningstar sustainability ratings are based on Sustainalytics scores. This rating scores how a fund is managing its ESG risks relative to its peers, with five globes being the top rating.

The following terms are also used within the Morningstar sustainability metrics we highlight for each fund:

- **Portfolio risk scores:** These scores highlight risks associated with various ESG factors. They range from 0 to 100; however, the scores for most funds usually fall between 1 and 25. A lower number is generally better.
- **Fossil fuel involvement** indicates the percentage of a fund's assets that are involved in the extraction, generation and production of thermal coal and/or oil and gas. A lower percentage is better for those wanting to avoid fossil fuels completely. However, many utilities focusing on renewable energy and decarbonization still have power plants operating on coal or natural gas. Therefore, a portfolio could have a higher number and still be making positive contributions to climate change.
- **Carbon solutions involvement** indicates the percentage of the portfolio's assets involved in activities such as: renewable energy generation, products and services; energy efficiency and related processes and products; green buildings and related technologies; and green transportation, including vehicles, technologies, services and infrastructure. A higher percentage is better for environmentally focused investors wanting to support decarbonization.

Opportunities in Sustainable Thematic Investing

Scientific research shows that changes in the climate are widespread, rapid, becoming more intense and affecting every part of the world. According to the Intergovernmental Panel on Climate Change, global warming of 1.5°C and 2°C will be exceeded this century unless immediate, large-scale reductions in greenhouse gas emissions occur soon.[1]

Greenhouse gas measurement is a useful tool, but it must be used thoughtfully, and the "footprint" of different portfolios must be considered in the right context.

The transition to a green economy will require annual investment in clean energy to more than triple by 2030, to around $4 trillion per year.[2] Capital investment must increase dramatically in the coming years.

At Mackenzie, we believe we are in the early days of a Great Energy Transition; one that will take decades to play out and will significantly change how we produce and consume energy and other resources. The transition is being driven by resource scarcity, demographic changes and the existential threat of climate change. We believe that investing in companies that produce environmentally superior products and services is essential to building a more sustainable and resilient economy. Similarly, the market for green bonds is growing exponentially – this debt is certified by a third party and used to finance climate or environmental-related projects.

As concerns over climate change have increased, many investors have also started to consider the greenhouse gases (GHGs) that companies emit. Carbon footprint analysis and screening has become a new tool that investment managers use to compare the environmental impact and progress that companies are making. For example, the GHGs of one metal producer can be compared to the GHGs of another. All else being equal, footprint management should lead capital to businesses able to reduce energy and other resources in their manufacturing processes. Mackenzie has begun to implement the use of footprint data across all its strategies. At the same time, Mackenzie is aware that footprint screening can have unintended consequences, particularly when applied at the portfolio level.

When the analysis shifts from comparing the footprint of similar businesses to comparing different sectors, capital could start shifting away from environmental solutions. It is easy to imagine that the manufacturer of wind turbine towers made from steel has a higher "footprint" than a bank, as one example. Greenhouse gas measurement is a useful tool, but it must be used thoughtfully, and the "footprint" of different portfolios must be considered in the right context.

The numbers are very clear: annual global investment in thematic solutions must triple from current levels in the next decade if we are to have any chance of staving off the worst effects of climate change. Having an allocation to thematic environmental strategies is becoming an important diversification tool that we believe will likely contribute to superior long-term investment outcomes.

For our mutual funds and ETFs, we show various metrics including but not limited to portfolio ESG risk scores from Sustainalytics. We also include several ESG metrics, explained in detail in the table below. These measure how a fund's risk profile may be impacted by various ESG factors.

ESG Metrics Explained

ESG Metric	Description and Source
Weighted Average Carbon Intensity (WACI) tCO_2e/USD$M	WACI, a carbon-intensity metric, measures a fund's exposure to carbon-intensive companies expressed in tCO_2e per USD$M in revenue. This metric acts as a comparable between the fund and the benchmark, utilizing **S&P Global Trucost**'s direct and first-tier indirect emissions data to do so.[3]
Paris Alignment	**S&P Global Trucost's Paris Alignment Dataset** enables investors to quantify and qualify a company's transition to a low-carbon economy. This dataset analyzes a company's emission targets and reductions in line with global climate goals, specifically analyzing a company's alignment to the Paris Agreement goals of limiting global warming to below 2°C above pre-industrial levels.[3]
Science Based Targets Initiative	Science-based targets are emission reduction targets that are aligned with climate science to reduce emissions in line with net zero and/or the Paris Agreement goals. The **Science Based Targets initiative** (SBTi) validates the pathway of science-based company targets.[4]
Board Diversity	Board diversity is demonstrated through company filings; depicted as the percentage of women on a company's Board of Directors.[5]
ESG Controversies	**Sustainalytics' ESG controversy research** identifies companies that have been involved in ESG incidents that could negatively impact the company's operations and other stakeholders, such as the environment.[6]
Positive Impact to the UN SDGs	Companies are assessed based on the contribution (limited/significant) of their products and services towards meeting the United Nations Sustainable Development Goals (UN SDGs).[7]

1 *Source:* **IPCC news release** *on Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.*
2 *Source: International Energy Agency report "***Net Zero by 2050***."*
3 *Source: S&P Global Trucost, 2021.*
4 *Source: Science Based Targets, 2021.*
5 *Company filing diversity data has been sourced from Bloomberg (2021).*
6 *Source: Sustainalytics, 2021.*
7 *Source: ISS ESG, 2021.*

United Nations Sustainable Development Goals

Climate change, poverty, systemic racism and inequality are huge issues identified by the United Nations, which investors can help to resolve.

The Sustainable Development Goals (SDGs) were adopted by United Nations member states in 2015. They form a universal call to action to end poverty, protect the planet and improve the lives and prospects of everyone, everywhere. The goals are part of the 2030 Agenda for Sustainable Development. Learn more about the UN SDGs **here**.

How We Contribute

Mackenzie uses the ISS ESG SDG Solutions Assessment, which reports on a portfolio's contribution or obstruction to the achievement of 15 sustainability objectives, based on the products and services of the portfolio companies being analyzed. The social and environmental objectives in the ISS ESG tool are closely aligned with the 17 UN SDGs. Learn more about the ISS ESG SDG assessment **here**.

Mackenzie Greenchip Global Environmental All Cap Fund

MACKENZIE Investments

OBJECTIVE

This fund seeks to provide long-term capital appreciation by investing primarily in listed equity securities of issuers located anywhere in the world that operate in the environmental economy. The portfolio manager seeks to identify undervalued securities that will benefit from the long-term trends of changing demographics, resource scarcity and environmental degradation.

FUND STRATEGY

The Fund generally maintains a portfolio of companies of any market capitalization whose revenues are generated selling environmentally superior products and services from the following sectors: clean energy, energy efficiency, clean technology, water, sustainable agriculture and transportation.

Sustainable thematic investing gives investors geographical and industry exposures that are not typically within investor portfolios. Coupled with that, environmental sector growth, technologies and regulatory policies can often be misunderstood, and securities may therefore be mispriced, offering opportunities for gains.

The Mackenzie Greenchip team prioritizes investment in climate solutions. The team seeks to contribute to achieving net-zero carbon emissions in the real economy by 2050. This product has a medium risk rating and is ideal for investors wanting to invest more sustainably while participating in the rapid growth of the environmental or "green" economy.

MSCI ESG Fund Rating

AA (Leader)

Morningstar Sustainability Rating

Risk Rating

Medium

Benchmark

MSCI ACWI

Morningstar Sustainability Metrics*	Portfolio	Benchmark
Portfolio Environmental Risk Score	7.59	4.21
Portfolio Social Risk Score	6.66	9.83
Portfolio Governance Risk Score	5.93	7.77
Fossil Fuel Involvement	9.25%	7.61%
Carbon Solutions Involvement	24.55%	10.01%

CONTRIBUTION TO THE UN SDGS

The Fund is assessed to identify the positive or negative contribution of a holding's products or services towards the UN SDGs.

86% vs **56%**

Positive Impact to the UN SDGs

Mackenzie Greenchip Global Environmental All Cap Fund makes more of a positive contribution to the UN SDGs than its benchmark. These values have been adjusted to account for availability of ratings.

$177,400 vs **$134,909**

Attributable Revenue per USD$1M Invested[1]

Mackenzie Greenchip Global Environmental All Cap Fund positively contributes USD$177,400 in attributable revenue towards the UN SDGs for every USD$1 million invested, which is higher than its benchmark.

MI Greenchip Gbl Env All Cap — Benchmark

Greenchip Global Environmental All Cap Fund contributes most to the following SDGs:

For full list of UN SDGs please see page 4.

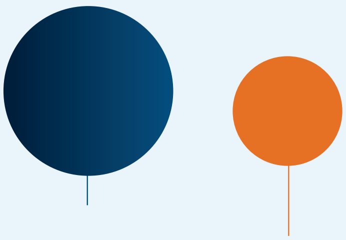
1 *Source:* **ISS SDG Solutions Assessment**.

* *Sustainability metrics are defined on page 2.*

ESG INDICATORS AS OF DECEMBER 31, 2021

Sources are depicted in the ESG Metrics Explained table on page 3.

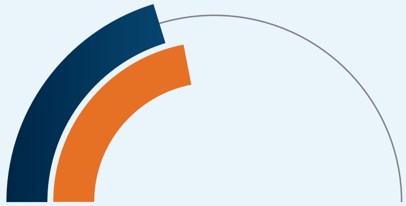
Environmental Indicators



501 vs **209**

Weighted Average Carbon Intensity (tCO_2e/USD$M)

WACI measures the Fund's exposure to carbon-intensive companies by calculating tons of carbon dioxide equivalent emitted per million U.S. dollars of revenue (tCO_2e/USD$M). Climate-oriented solutions tend to be more carbon intensive than their benchmarks, hence the Fund's higher score.

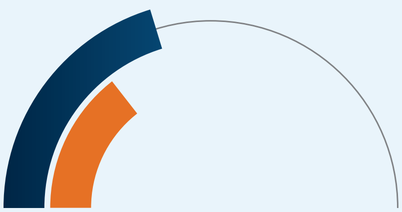


41% vs **44%**

Paris Alignment

41% of the Mackenzie Greenchip Global Environmental All Cap Fund's weighting is aligned to limiting global warming to below 2°C above pre-industrial levels, as per the goals of the Paris Agreement. As the benchmark contains more large cap names than the Fund (which is all cap), this would explain why Paris-aligned commitments are lower.

Environmental Indicator

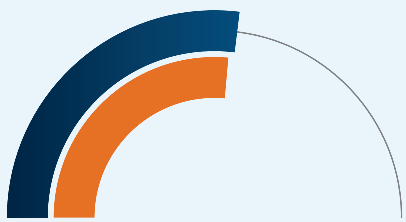


41% vs **29%**

Percentage of Portfolio with Decarbonization Targets

41% of the Mackenzie Greenchip Global Environmental All Cap Fund has corporate targets aligned with the Science Based Targets initiative (SBTi), which is higher than its benchmark.

Social Indicator



54% vs **53%**

Board Diversity

54% of the Mackenzie Greenchip Global Environmental All Cap Fund's weighting is made up of companies with more than 30% women on their boards of directors. Boards with greater diversity allow a wider range of perspectives in boardroom discussions.

Governance Indicator

0% vs **10%**

Portfolio Weight with High or Severe ESG Controversies

This fund has no exposure to companies with high or severe ESG controversies (i.e., company activity or news that could hurt the company's outlook, reputation or stock performance). This speaks to risk management at each portfolio company.

MI Greenchip Gbl Env All Cap   Benchmark

CASE STUDY: ENGAGEMENT WITH A PORTFOLIO COMPANY

Canadian Solar

One of the Fund's largest holdings is Canadian Solar, a China-domiciled, Canadian-headquartered producer of solar modules and developer of solar farms. After a December 2017 bid by the Chair and Chief Executive Officer to take the company private, the Mackenzie Greenchip team raised governance issues with the Board. The bid price was far less than our estimate of fair value, and the long evaluation process distracted the Board and concerned investors. We engaged with directors, encouraging them to reject the offer because we felt it did not fairly treat minority shareholders. The Chair and CEO ultimately withdrew the bid, and the Board and management refocused their attention on running the company. The team continues to engage with the company on material ESG factors.

FOR MORE ABOUT THIS FUND'S STRATEGY, VISIT OUR WEBSITE.

Mackenzie Global Green Bond Fund

MACKENZIE
Investments

MSCI ESG Fund Rating

N/A

Morningstar Sustainability Rating

Risk Rating

Low

Benchmark

Bloomberg Barclays MSCI Green Bond Index (hedged to CAD)

Morningstar Sustainability Metrics*	Portfolio	Benchmark
Portfolio Environmental Risk Score	4.77	3.03
Portfolio Social Risk Score	5.68	5.77
Portfolio Governance Risk Score	4.95	4.82
Fossil Fuel Involvement	N/A**	15.60%
Carbon Solutions Involvement	N/A**	10.56%

OBJECTIVE

This fund seeks to provide income with the potential for long-term capital growth by investing primarily in fixed-income securities of issuers anywhere in the world. The fund managers focus on sustainable and responsible debt issuance.

FUND STRATEGY

Mackenzie Global Green Bond Fund combines qualitative, quantitative and fundamental research with the analysis of ESG factors in investment selection. The Fund invests primarily in labelled green bonds and other debt instruments that are used to finance environmental and sustainable solutions, diversifying across credit quality, yields, structures, sectors, currencies and countries. Green bonds are used to finance projects with a specific climate or environmental focus.

This product is ideal for investors wanting income or lower-risk investments with a positive environmental impact.

The Mackenzie Fixed Income team analyzes material environmental factors of an issuer, including carbon emissions, especially in carbon-intensive industries. The team believes that issuers with high carbon emissions and no transition plan expose investors to higher credit risk. By analyzing and investing in green bonds, the team taps into opportunities in the transition to a low-carbon economy.

CONTRIBUTION TO THE UN SDGS

The Fund is assessed to identify the positive or negative contribution of a holding's products or services towards the UN SDGs.

85% vs **59%**

Positive Impact to the UN SDGs

Mackenzie Global Green Bond Fund makes more of a positive contribution to the UN SDGs than its benchmark. These values have been adjusted to account for availability of ratings.

$294,887 vs **$157,449**

Attributable Revenue per USD$1M Invested[1]

Mackenzie Global Green Bond Fund positively contributes USD$294,887 in attributable revenue towards the UN SDGs for every USD$1 million invested, which is higher than its benchmark.

MI Gbl Green Bond   Benchmark

1 Source: **ISS SDG Solutions Assessment**.

Global Green Bond Fund contributes most to the following SDGs:

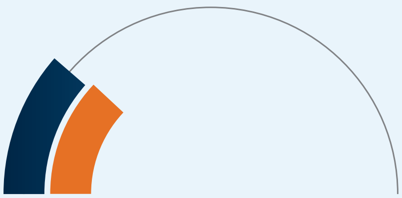
For full list of UN SDGs please see page 4.

* *Sustainability metrics are defined on page 2.*
** *Score not yet available.*

ESG INDICATORS AS OF DECEMBER 31, 2021

Sources are depicted in the ESG Metrics Explained table on page 3.

Environmental Indicator



23% vs **24%**

Percentage of Portfolio with Decarbonization Targets

23% of the Mackenzie Global Green Bond Fund has corporate targets aligned with the Science Based Targets initiative (SBTi).

MI Gbl Green Bond | Benchmark

Governance Indicator

0% vs **3%**

Portfolio Weight with High or Severe ESG Controversies

This fund has no exposure to companies with high or severe ESG controversies (i.e., company activity or news that could hurt the company's outlook, reputation or stock performance). This speaks to risk management at each portfolio company.

The Mackenzie Fixed Income team regularly assesses our portfolios for alignment with the **Transition Pathway Initiative** (TPI), to review progress made by the world's highest-emitting public companies on the transition to a low-carbon economy. Additionally, they check alignment of issuers to the **Climate Action 100+** Net-Zero Company Benchmark, which assesses the performance of high emitters against goals for emissions reduction, governance and disclosure. As a cross-reference to their own internal ESG rankings, they review all holdings against Sustainalytics ratings.

CASE STUDY: ENGAGEMENT WITH AN ISSUER

Suzano

Suzano is the world's largest producer of eucalyptus pulp, used to make various types of paper. The Brazilian company's forest base covers 2.3 million hectares. In 2020, the company removed 15 million tons more carbon dioxide equivalent (tCO_2eq) from the atmosphere by sequestration than it emitted, because of its ongoing forestry management operations. Suzano's goal is to go even further in the coming years, targeting a net removal of 40 million tons by 2025, including direct and indirect emissions.

The Mackenzie Fixed Income team met with company management in 2021 to discuss their approach to ESG-labelled debt in the capital structure. Suzano issues green bonds (which are used to finance environmentally friendly projects) as well as sustainability-linked bonds (which are bonds where the coupon is adjusted depending on the achievement of sustainability targets). Currently, 30% of its debt is labelled green or sustainability-linked, and the company plans to have 100% of its debt carry an ESG label.

FOR MORE ABOUT THIS FUND'S STRATEGY, VISIT OUR WEBSITE.

MACKENZIE
Investments

To enable comparisons with the benchmark, we adjust both our portfolio metrics and benchmark metrics to approximate 100% ratings coverage for all dataset utilized within our ESG Analysis for equity and corporate fixed income instruments. Due to the nature of ESG Data coverage, non-eligible securities, such as Cash & Equivalents, ETFs, Government Securities, Commodities, Derivatives, Short Positions, and Mutual Funds have been excluded from the analysis as they are not applicable and/or available. As per our methodology, we have only reported ESG metrics for funds with above 70% portfolio weight coverage taking into account only the eligible securities. Because of this, certain ESG metrics have not been reported for the Mackenzie Global Green Bond Fund and its respective benchmark.

Commissions, trailing commissions, management fees and expenses all may be associated with mutual fund investments. Please read the prospectus before investing. Mutual funds are not guaranteed, their values change frequently and past performance may not be repeated.

This document may contain forward-looking information which reflect our or third-party current expectations or forecasts of future events. Forward-looking information is inherently subject to, among other things, risks, uncertainties and assumptions that could cause actual results to differ materially from those expressed herein. These risks, uncertainties and assumptions include, without limitation, general economic, political and market factors, interest and foreign exchange rates, the volatility of equity and capital markets, business competition, technological change, changes in government regulations, changes in tax laws, unexpected judicial or regulatory proceedings and catastrophic events. Please consider these and other factors carefully and not place undue reliance on forward-looking information. The forward-looking information contained herein is current only as of December 31, 2021. There should be no expectation that such information will in all circumstances be updated, supplemented or revised whether as a result of new information, changing circumstances, future events or otherwise.

The content of this report (including facts, views, opinions, recommendations, descriptions of or references to, products or securities) is not to be used or construed as investment advice, as an offer to sell or the solicitation of an offer to buy, or an endorsement, recommendation or sponsorship of any entity or security cited. Although we endeavour to ensure its accuracy and completeness, we assume no responsibility for any reliance upon it.

MSCI ESG Research LLC's ("MSCI ESG") Fund Metrics products (the "Information") provide environmental, social and governance data with respect to underlying securities within more than 23,000 multi-asset class Mutual Funds and ETFs globally. MSCI ESG is a Registered Investment Adviser under the Investment Advisers Act of 1940. MSCI ESG materials have not been submitted to, nor received approval from, the US SEC or any other regulatory body. None of the Information constitutes an offer to buy or sell, or a promotion or recommendation of, any security, financial instrument or product or trading strategy, nor should it be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. None of the Information can be used to determine which securities to buy or sell or when to buy or sell them. The Information is provided "as is" and the user of the Information assumes the entire risk of any use it may make or permit to be made of the Information.

Source: S&P Trucost Limited © 2021 Trucost