

Crop Trust Climate Disclosures Report





Crop Trust
Climate Disclosures Report
July 2026

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Letter From the Executive Board

Dear Partners, Donors and Friends of the Crop Trust,

Welcome to the first Crop Trust Climate Change Disclosure Report, which has been prepared in line with the recommendations of the Task Force on Climate-related Financial Disclosures, or TCFD.

The Global Crop Diversity Trust, or Crop Trust, is an international organization with a mission to safeguard the world's crop diversity in genebanks and make it available for researchers, plant breeders and farmers. We make crop diversity available for use to ensure humanity can develop new crop varieties that can respond to challenges, including climate change impacts, biodiversity loss, land degradation and other environmental pressures. In doing so, we can secure the world's food supply in the face of critical change to earth systems and human conflict. Much of this work relies on income from investing our Endowment Fund to provide predictable funding for the essential operations of key genebanks.

In line with our mission and organizational values, the Crop Trust is committed to invest in ways that do not accelerate or exacerbate the challenges we face. Alongside the primary goal of generating revenue to fund our critical work our endowment investment strategy therefore considers social and environmental impacts to advance sustainability in our portfolio and in global markets.

The Crop Trust is a long-term investor and is diversified across asset classes, regions and sectors. It is in the Crop Trust's interest that markets can effectively price emerging climate related risks and that policymakers can address these market externalities. The Crop Trust believes that TCFD-aligned disclosure from asset owners, asset managers and corporates is in

the interest of beneficiaries as well as wider market participants.

Our primary fiduciary duty is to grow the endowment through a risk-return appropriate investment strategy. Nonetheless as a long-term asset owner the Crop Trust recognizes climate considerations are also a part of our fiduciary duty and aims to be a good steward of the environment by investing in support of a climate-safe future. The Endowment Fund seeks to demonstrate strong ambition in climate policies and, in doing so, support the broader mission of the Crop Trust.

This report should provide insight into how the Crop Trust practices this principle. It focuses on the emissions of the Endowment investment portfolio. Considering climate change is aligned with the Crop Trust's aim to manage our investment portfolio responsibly. It is a way to identify emerging risks before we are adversely affected. It also opens the opportunity to capture more value as social and economic realities shift.

The Executive Board of the Crop Trust invites you to explore our TCFD Report. We want to share how our goal of sound environmental stewardship extends beyond our core work into our investment strategies. We also want to ensure our donors and partners understand the Crop Trust's deep commitment to building a better future for all while securing the future of food forever.

Sincerely,



Catherine Bertini
Chair of the Executive Board
Crop Trust

About This Report

The Global Crop Diversity Trust (the Crop Trust) supports the Task Force on Climate-related Financial Disclosures (TCFD) climate disclosure recommendations as a framework to describe and communicate the steps the Crop Trust is taking to manage climate-related risks and incorporate climate risk management into its Crop Diversity Endowment Fund (the Endowment) investment processes. This is in line with the International Financial Reporting Standards (IFRS). In this context, it is important to note the following points:

- The Crop Trust is not subject to regulations requiring climate disclosures. Given its role as a long-term investor, alongside its primary fiduciary duty to grow the endowment and fulfil its mission, the Crop Trust believes in promoting transparent climate and sustainability disclosures. This report sets out its position concerning consideration of climate and broader sustainability risks and opportunities.

In articulating climate disclosures, it commits to integrating climate considerations into its governance processes, risk management oversight and investment strategy, as well as seeking to achieve its net-zero targets.

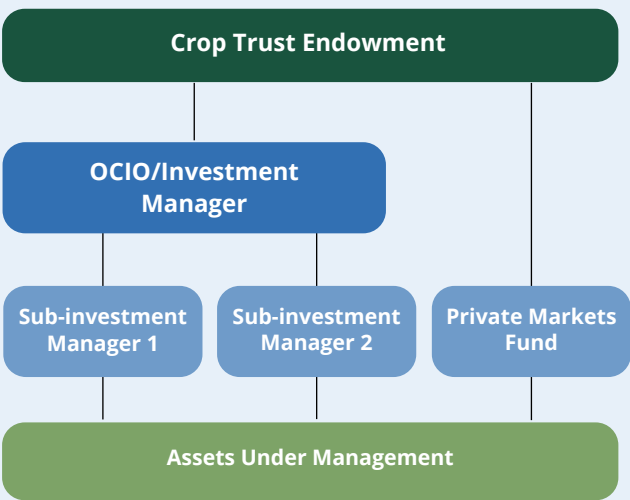
- This report covers the climate disclosures related to the Endowment, which is comprised of the investment assets used to provide sustainable and long-term financial and technical assistance support to globally significant genebanks around the world.
- Methodologies, tools and data for climate change and sustainability are continually evolving and improving. The Crop Trust therefore recognizes that new methodologies and data sources may require periodic updates and revisions to the climate strategy over time. The Crop Trust will disclose any changes or enhancements to the climate approach transparently.

Background Information to Key Parties

Mercer LLC acts as the Investment Advisor to the Sustainability Committee and Mercer Global Investments Europe Limited (MGIE) acts as the Outsourced Chief Investment Officer (OCIO) i.e. the Investment manager. Throughout this report these are defined as “Investment Advisor” and “OCIO/Investment Manager” respectively.

Investment managers underlying the funds the Crop Trust invest in are referred to as sub-investment managers.

More detail is provided in the governance section on the organizational structure of the Crop Trust.



Highlights From This report

This Climate Disclosures Report sets out the work conducted by the Crop Trust with respect to climate-related risks and opportunities for Endowment Fund assets. Explore key highlights from this report:

- **Creation of the Sustainability Committee**—In 2024, the Crop Trust established a Sustainability Committee (SC) that reports to the Investment Committee (IC). The SC provides guidance to the IC on the Endowment's approach to integrating climate and sustainability factors and its progress towards its sustainability objectives.
[See page 10 for more information.](#)
- **Climate Scenarios Considered in Strategy Design**—Climate modeling has informed investment strategy design. The target Strategic Asset Allocation (SAA) for 2025 was designed to be more resilient to climate transition scenarios compared to the preceding SAA. The scenario analysis tool was used as a material input into strategic decision-making for the Endowment.
[See page 16 for more information.](#)
- **Allocation to Climate Opportunities**—The investment portfolio includes significant allocations to funds that aim to invest capital towards sustainability and climate transition themes. This includes a sustainable global listed equity strategy, a sustainable private markets strategy, and an impact strategy that invests to pursue positive environmental and social impacts.
[See page 18 for more information.](#)
- **Climate Risk Frameworks Enhanced**—The Crop Trust has created a separate climate risk register reviewed by the Sustainability Committee to document the actions needed to manage key climate risks. The register establishes risk thresholds and details mitigations to protect Endowment assets against climate-related risks. This includes considering climate-related opportunities, demonstrated by the changes in asset allocation mentioned above.
[See page 20 for more information.](#)
- **Climate Stewardship Strategy Established**—On behalf of the Crop Trust, the OCIO/Investment Manager liaises with sub-investment managers regularly, including monitoring of engagement with companies on their net-zero transition journey. The OCIO/Investment Manager has produced a Climate Engagement Target List covering companies in the Endowment's investment portfolio. The sub-investment managers investing in companies on this watchlist are requested to monitor and share the companies' climate progress with the OCIO/Investment Manager, including additional targeted engagements undertaken by the sub-investment manager. The OCIO/Investment Manager has established an escalation framework for these engagements, which is linked to voting and includes the potential for divestment if progress towards alignment with net zero is deemed insufficient or unlikely.
[See page 23 for more information.](#)
- **Net-Zero Pathway Progress**—The Endowment has made progress on its Net-Zero Pathway with an ultimate objective of achieving net-zero emissions in the investment portfolio by 2040. As of 2024 (31 December 2023 reporting date), the Endowment listed assets (excluding non-corporate bonds and private markets) have seen their scope 1 and 2 emissions intensity reduce by 33.5% against a target of 27.5% relative to the 2020 baseline. The Endowment is therefore ahead of its target decarbonization pathway.
[See page 31 for more information.](#)

Introduction

This section provides the background to climate reporting including an explanation of the TCFD and then gives an overview of the climate strategy architecture of the Endowment and the Crop Trust sustainable investment beliefs.

Background Information: Climate Reporting

Established in 2015, the Task Force on Climate-related Financial Disclosures developed a framework for disclosing voluntary and consistent climate-related financial disclosures useful to investors, lenders and insurance underwriters in understanding material climate-related risks. The TCFD was established by the Financial Stability Board (FSB) to develop a framework for climate-related financial disclosures. It was set up in recognition of the risks posed by greenhouse gas emissions to the global economy and impacts that are likely to be experienced across economic sectors.

The Task Force structured its recommendations around four thematic areas:

Core Elements of Recommended Climate-Related Financial Disclosures



Governance - The organizations governance around climate-related risks and opportunities

Strategy - The actual and potential impacts of climate-related risks and opportunities at the organization's businesses, strategy and financial planning

Risk Management - The processes used by the organization to identify, assess and manage climate-related risks

Metrics and Targets - The metrics and targets used to assess and manage relevant climate-related risks and opportunities

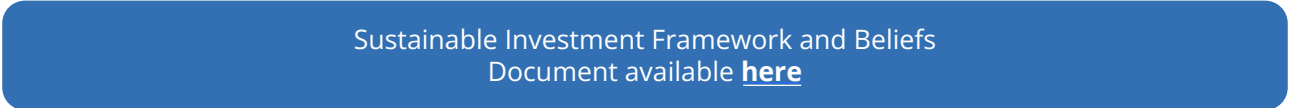
From 1 January 2024, responsibility for monitoring International climate-related disclosures transitioned from TCFD to the International Sustainability Standards Board (ISSB). This transition reflected the incorporation of the TCFD recommendations into the ISSB's global sustainability disclosure standards, including the IFRS S2 Climate-related Disclosures. The IFRS S2 requirements integrate and are consistent with the four core recommendations and 11 recommended disclosures published by the TCFD. While IFRS maintained consistency with the original disclosures under the FSB as much as possible, there are some differences in the application of the guidance that have been applied throughout this report.

The Crop Trust climate strategy architecture

Investment Approach



Climate Approach



Governance



Strategy



Risk Management



Metrics & Targets



Climate Strategy Implementation Actions



The Crop Trust sustainable investment beliefs and climate strategy principles

The Crop Trust acknowledges the following core climate strategy principles, which are central to the Endowment's climate approach. These principles have been agreed with the OCIO/Investment Manager, who are responsible for overseeing and executing the climate strategy in broader investment activity.

- Achieving net-zero portfolio carbon emissions is in the best interest of all market participants as climate change is a financially material risk.
- Climate objectives need to consider the broader financial objectives of the Endowment.
- Stewardship is preferred over divestment to achieve a "real-world" climate transition.
- Portfolio decarbonization is a dynamic process requiring active oversight.
- The Endowment will seek to support climate transition opportunities.
- Climate strategies will consider market best practices.

Climate change poses a systemic risk, with financial impacts driven by two key sources of change. These drivers of change present both risks and opportunities to investors:

- Physical damages are expected from an increase in global temperatures.
- Transition to a low-carbon economy is required to mitigate the severity of physical damages.

The Crop Trust believes that there is a need to limit global average temperature increases this century to "well below 2°C", as per the 2015 Paris Agreement. To manage systemic risk and to support the Paris Agreement targets of limiting global average temperature rise to 1.5°C and a just transition, **the Crop Trust has set a target that the Endowment will have net-zero portfolio carbon emissions by 2040.** Further details are shown in the "Metrics and Targets" section.

Collaboration with ESG initiatives

To address ESG issues such as climate change, organizations must work together to bring about change. The Crop Trust has consulted with the OCIO/Investment Manager to prioritize its engagement with key environmental, social and governance (ESG) initiatives aligned with its mission and objectives.

UN PRI: The UN Principles for Responsible Investment (PRI) is an organization connecting investors globally to develop and implement ESG best practices across investments. The UN PRI seeks commitments across six principles and explicitly recommends climate disclosures conducted aligned with TCFD recommendations. The Crop Trust is a signatory of the UN PRI and is committed to working with the UN PRI to evolve its ESG practices in line with market developments.

TCFD: As noted above, TCFD-aligned disclosures have become the best practice standard in climate reporting. The Crop Trust signed up as a supporter of TCFD to support its goal of enhancing climate disclosures.

TNFD: The recently launched Taskforce on Nature-related Financial Disclosures (TNFD) follows a similar framework to the TCFD. It aims to create a consistent disclosure framework for nature and biodiversity. This ensures that nature and biodiversity themes are more deeply embedded in the investment objectives of financial market participants. Collaboration with the TNFD is aligned with the mission of the Crop Trust and provides an opportunity for the Crop Trust to advocate for crop diversity as a component of biodiversity.

Governance

This section covers the Crop Trust's governance structure and approach to assess and manage climate-related risks and opportunities specifically within its Endowment Fund.

Climate governance structure

1. A Sustainability Committee (SC) was formed by Crop Trust Management to provide guidance to the Investment Committee (IC) and ensure effective governance of climate change risks and opportunities for the Endowment.
2. The SC will report recommendations to the IC. Where decisions need to be approved at the Board level, the IC will provide recommendations to the Board.
3. To support its work, the SC will receive advice from its external **Investment Advisor**. The Crop Trust has delegated certain investment functions, including climate change risk

oversight for the Endowment, to their **Outsourced Chief Investment Officer**, referred to as **OCIO/Investment Manager** in this report.

Climate governance tasks and responsibilities

The Crop Trust has established a detailed approach and processes to follow concerning climate change risks and opportunities for the Endowment in its Climate Governance Statement, which was agreed by the Crop Trust Executive Board. The full version of this statement, alongside the Crop Trust Sustainable Investment Framework, is available on the Crop Trust website. The Sustainable Investment Framework (see Annex 1 of the [Investment Policy](#)) guides the approach to manage broader ESG and climate change risks within the Endowment.

A detailed summary of the key tasks and responsibilities are set out in the following table:

What	How	Responsibility
Governance and climate oversight		
There are persons assigned with climate-related responsibilities with clear directions regarding how and when they inform the IC/ Board of their work.	The SC was formed to closely oversee climate risks and opportunities. An annual climate action plan is produced by the SC with support from the Investment Advisor, which is approved by the IC.	Sustainability Committee (Supported by Investment Advisor)
There is a requirement for those tasked with climate change oversight to undertake training on climate risks and opportunities.	The Investment Advisor provides training to the SC (and IC where appropriate) on climate issues at regular intervals.	Sustainability Committee (Investment Advisor to conduct training)

There are processes established to ensure that those undertaking climate governance, and those advising or assisting in relation to those activities have adequate climate-related risk expertise and resources.	Regular review of Investment Advisor by the SC.	Sustainability Committee (Investment Advisor to provide information where required)
Investment strategy		
Climate risks and opportunities are to be considered across the Endowment's investment portfolio.	Climate risks and opportunities are to be considered in the Endowment's annual Strategic Asset Allocation review as well as in capital market assumptions. ESG evaluation by the OCIO/Investment Manager is carried out with due diligence across the funds in the portfolio.	OCIO/Investment Manager
Risk management		
There are effective processes for the purpose of identification, assessment and managing climate-related risks and the central risk management frameworks for the Crop Trust (in respect to the Endowment) integrates these processes.	Climate risks (transition and physical) have been identified and are included in the central risk framework through the risk registry. The processes used to identify, assess, prioritize and monitor opportunities are integrated into the Crop Trust's overall risk management process (in respect to the Endowment) and updated as required.	Sustainability Committee (Supported by Investment Advisor)
Climate risks are monitored on an ongoing basis and risk controls are in place for identified climate risks.	Climate risks are monitored by the SC on an ongoing basis. Risk controls are put in place for identified climate risks and mitigation processes are activated when certain thresholds are breached.	Sustainability Committee
There is an effective active ownership strategy with climate considerations covered in voting and engagement actions.	Climate considerations are considered alongside other factors in the OCIO/Investment manager's voting and engagement processes in respect to the Endowment. Clear stewardship priorities, and engagement watchlists have been established and escalation procedures have been agreed.	OCIO/Investment Manager
Metrics and targets		
Climate-related metrics are reviewed on an annual basis.	Climate-related metrics are reviewed on an annual basis to ensure alignment with market standards, evolving methodologies and stewardship data.	Sustainability Committee

Climate metrics for the Endowment's investment portfolio are obtained and reported on an annual basis.	The metrics are sourced from the OCIO/Investment Manager who in turn may obtain data from sub-investment managers or other sources.	OCIO/Investment Manager
A climate target or targets are set for the Endowment's investment portfolio in respect of at least one metric and the target's appropriateness is reviewed annually. Performance against the target(s) are assessed annually. Target appropriateness is reviewed annually.	Climate target follows guidance from the Investment Advisor. Progress versus the target(s) is being assessed annually and any necessary actions are being considered. Target appropriateness is being reviewed annually in line with market standards and evolving methodologies.	Sustainability Committee

Strategy

This section sets out the Crop Trust Endowment's approach for managing climate-related risks and opportunities through:

1. Performing climate scenario analysis and using the outputs of this analysis in investment strategy
2. Allocation to climate opportunities

The Crop Trust, with support from the Investment Advisor, will perform climate scenario analysis regularly, at least triennially. This can occur more

often in the case of significant strategy changes and/or changes in market conditions relating to climate risks and opportunities.

The Crop Trust seeks to allocate to climate opportunities within the Endowment's investment portfolio to provide financing to sectors that directly contribute to enhancing climate transition and broader global sustainability objectives. In this section, we detail case studies on investments in climate opportunities.

Background Information: Transition and Physical Risks

The Task Force on Climate-related Financial Disclosures categorizes climate-related risks into two main types – transition risks and physical risks.

1. Transition Risks – These are risks associated with the transition to a lower-carbon economy. Transitioning involves significant changes in policy, legal frameworks, technology, and market dynamics aimed at reducing greenhouse gas emissions. The TCFD further breaks down transition risks into four main categories.

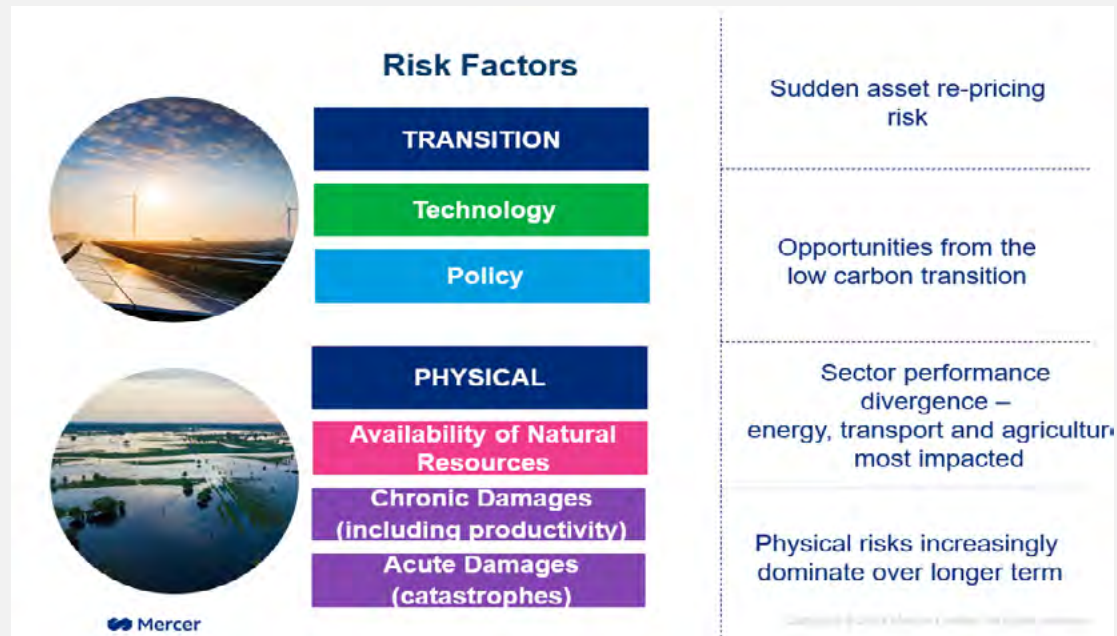
- Policy and Legal Risks: Changes in regulations and laws that may affect how businesses operate.
- Technology Risks: The emergence of new technologies that can disrupt existing business models or require significant investment to adapt.
- Market Risks: Shifts in market preferences and demand for low-carbon products and services, which can impact revenue and profitability.
- Reputation Risks: The potential for negative public perception and loss of customer trust if a company is perceived as not adequately addressing climate change.

2. Physical Risks – These risks are related to the direct impacts of climate change. They can be divided into two categories.

- Acute Physical Risks: These are event-driven risks, such as extreme weather events (hurricanes, floods, etc.) that can cause immediate damage to assets and operations.

- Chronic Physical Risks: These refer to longer-term changes in climate patterns, such as rising sea levels and increasing temperatures, which can gradually affect the viability of certain locations and operations.

Mercer uses the following risk categories within its climate scenario analysis tool:



Key time periods for analysis of climate change

The Crop Trust has defined short-, medium- and long-term time horizons for the Endowment that it believes are appropriate to help assess potential climate change impact. These are outlined in the table below:

Climate impact analysis	Short Term	Medium Term	Long Term
Time period	5 years	15 years	40 years
Rationale	Able to understand impact of transition risks in short-term.	Long enough timeframe to have a meaningful impact on climate metrics and aligns with 2040 Net Zero Investment Framework (NZIF) target.	Able to understand long-term impacts of climate change, in particular physical risks expected to emerge in the medium to long-term.

Climate risks	Risks may present themselves through rapid market re-pricing relating to a climate transition. For example: • Climate scenario pathways become clearer • Market awareness grows • Policy changes unexpectedly surprise markets • Market sentiment is shocked • Perceived or real increased pricing of greenhouse gas emissions/carbon • Replacement of products/services with lower emission alternatives • Litigation risk linked to dangerous warming becoming more prevalent • Increases in the energy/heat efficiency of buildings and infrastructure	Likely to be more balanced between transition and physical risks. Full extent of physical climate damage much more understood at this stage, so markets will price this into asset values to a large extent.	Physical risks are expected to come to the fore. This includes the impact of natural catastrophes leading to physical damages through extreme weather events. Availability of resources is expected to become more important if changes in weather patterns (e.g. temperature or precipitation) affect the availability of natural resources such as water. The impact of global heating on productivity, particularly in areas closer to the equator, will also be a key driver.
Climate opportunities	Investing in climate solutions as policy support strengthens. The Crop Trust's ability to understand these short-term changes could help position the Endowment's assets favorably, for example by taking advantage of the climate transition by avoiding and reducing investment in high-emitting carbon sensitive businesses/assets that do not have a business plan that supports the transition to a low carbon economy.	The Crop Trust's ability to understand the changes and evolve the portfolio as the climate pathway develops should help control risk and potentially enhance returns. The OCIO/Investment Manager seeks to select sub-investment managers and choose asset classes that can identify potential emergence of low carbon opportunities and the decline of some traditional sectors.	Over longer time periods, fossil fuel operations are expected to have largely ceased with energy and materials sourced from renewable sources.

Climate scenario analysis modelling

Climate scenario analysis is performed through a tool that models the different climate risk factors across various climate scenarios and translates these to a series of macroeconomic impacts that each cause shocks to investment asset classes. This produces a series of impacts on asset valuations and investment returns across the different time periods. More details are provided on these climate scenarios:

- **Rapid Transition (1.5°C)** – Average temperature increase of 1.5°C by 2100 (relative to pre-industrial average). This scenario assumes sudden downward repricing across assets in 2025. This could be driven by a change in policy, consideration of stranded assets or expected costs. The shock is partially sentiment-driven and so is followed by a partial recovery. Physical damages are most limited under this scenario.
- **Orderly Transition (less than 2°C)** – Average temperature increase of less than 2.0°C by 2100. Governments and wider society act in a coordinated way to decarbonize and limit global warming to well below 2°C. Transition impacts do occur but are less than in the Rapid Transition scenario.
- **Limited Transition (2.6°C)** – Average temperature of around 2.6°C by 2100. Policymakers implement limited Nationally Determined Contributions (NDCs) and fall short of meeting the Paris Agreement goals. This assumes a slight downward repricing of securities in the late 2020s and slightly mitigates physical damage (relative to a failed transition). Physical damages are considerable and begin to be priced in from the late 2020s onwards.
- **Failed Transition (greater than 3.7°C)** – Average temperature increase above 3.7°C by 2100. The world fails to coordinate a transition to a low-carbon economy. Physical climate impacts significantly reduce economic productivity and have increasingly negative impacts, including extreme weather events. These are reflected in repricing shock events in the late 2020s and late 2030s.

In designing scenario analysis, a fundamental decision is whether to assume that any climate impacts are priced in today. The analysis in this report is expressed relative to a 'climate-informed' baseline¹. This implies that all return impacts are presented in terms of how they are different from what we are assuming is priced in today.

Further details on climate scenario narratives, including modelling assumptions and limitations, are included in the Technical Appendix of this report.

Climate scenario analysis results

The tables below show the output of the Crop Trust's climate scenario analysis. The climate scenario analysis presents the results across two different investment portfolios:

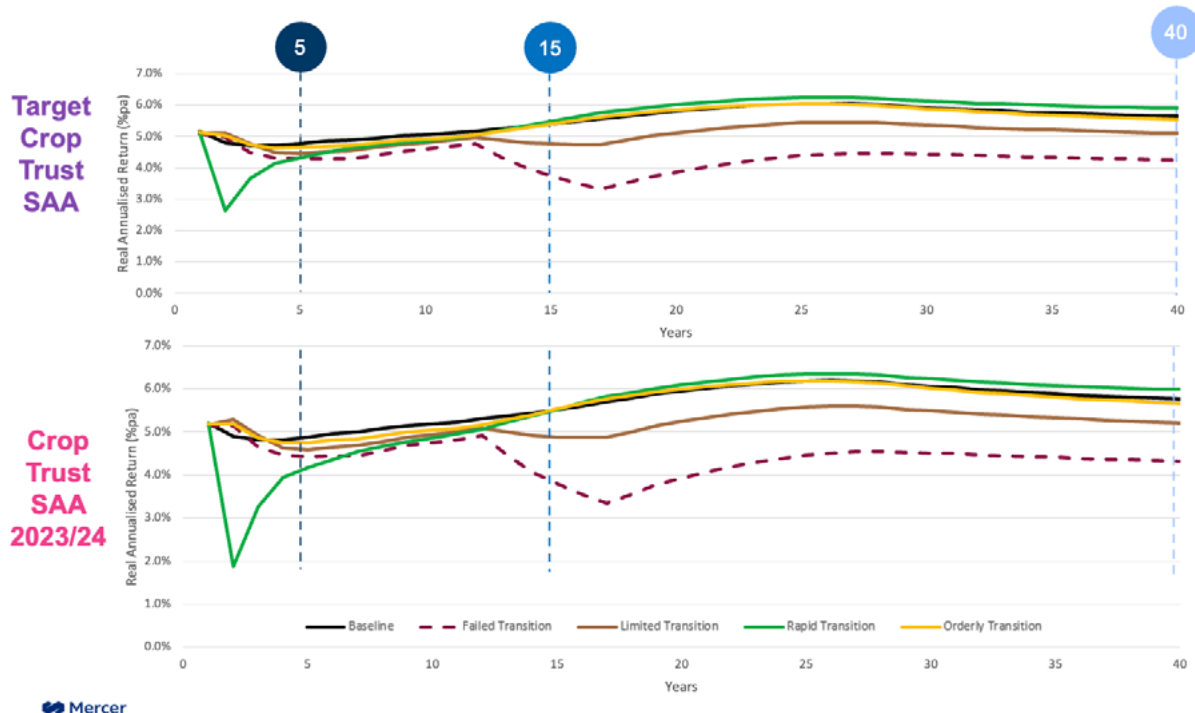
- **Crop Trust SAA (Strategic Asset Allocation)** 2023/24 – The Endowment's investment strategy was implemented in 2023 and in place throughout 2024
- **Target Crop Trust SAA** – An alternative investment strategy proposed to the Crop Trust in 2024 and agreed to be implemented in 2025.

The Target Crop Trust SAA has enhanced climate transition characteristics. This results primarily from a new allocation to Paris Agreement-aligned equities, which is expected to accelerate decarbonization progress and perform favorably in climate transition scenarios. This passive strategy tracks an EU Paris-Aligned Benchmark, which means annual decarbonization is built into the index construction methodology, as well as explicit exclusions for companies that derive above threshold levels of revenues from fossil fuel-related activities.

The graphs below set out projections of assets and annualized returns from an analysis date of 31 December 2023, with focus on 5, 15, and 40 years, which are the short, medium and long-term periods selected for evaluation.

¹The baseline represents what we are assuming the market is currently pricing in. The baseline includes a 10% weight to a Failed Transition, 40% weight to an Orderly Transition, 10% to a Rapid Transition and 40% to a range of low impact scenarios.

Summary of climate scenario analysis findings



*Relative to Baseline

(The baseline represents what we are assuming the market is currently pricing in. The baseline includes a 10% to a Rapid Transition, 40% weight to an Orderly Transition, 10% weight to a Failed Transition, and 40% to a range of low-investment-impact scenarios.

The results of the climate scenario analysis showed the following:

- The Target Crop Trust SAA performed more favorably under the short- and medium-term Rapid Transition scenarios and therefore is expected to provide better return outcomes in the event of transition-related market shocks. This is mostly due to the higher allocation to transition equities in this SAA.
- The two strategies perform similarly under Orderly Transition, Limited Transition and Failed Transition scenarios.
- The investment objective is expected to be met in all but one scenario (Failed Transition 15-year scenario).

The Target Crop Trust SAA was considered by the Investment Committee to be the most favorable from a climate transition perspective, while also meeting the broader financial objectives of the Endowment with a high degree of certainty. It was therefore agreed to be adopted going forward.

Investment in climate opportunities

Climate and sustainability factors across the portfolio

Within the Endowment's investment portfolio there are a number of climate and sustainability factors incorporated into fund objectives. The table below provides a summary of these factors across the Endowment's investment portfolio.

Factor	Number of sub-investment funds
Emissions target (20% lower than benchmark)	5
Climate exclusions (thermal coal, arctic drilling, oil sands tar mining)	8
SFDR Article 8 aligned	9
SFDR Article 9 aligned	1

Allocation to Private Market Impact Fund

The Crop Trust has made a decision to invest in Mercer's **PIP Global Impact** fund, which is aligned with Article 9 under SFDR disclosure regulation. This fund focuses on private markets and aims to achieve a positive impact by selecting sub-investment managers that finance companies and/or projects that accelerate the climate transition, preserve natural ecosystems, and/or contribute to social equity. Underlying investments include sustainable infrastructure, energy efficiency and circular economy, education, and affordable housing projects. Below are a selection of case studies related to investments made within Mercer's PIP Global Impact Fund.

PIP Global Impact Fund: Impact Key Performance Indicators (KPIs)

The following table sets out the impact KPIs for PIPVII (the PIP Global Impact Fund) as at 31 December 2023. Note that the Crop Trust's investment in this fund makes up a total of 10.03% of the Fund (the figures shown below are for the whole Fund).

Impact Metrics	
Renewable energy generation (in MWh, for energy producers only)	8,458
Renewable energy capacity installed (in MW, for energy producers only)	19
Energy efficiency: saved / reduced (in MWh)	22,942
Avoided GHG emissions (in tCO ₂ e) - Scopes 1, 2 & 3	74,456
Reduced Waste	396
Waste treated / handled / diverted from landfill	29,955
Water saved (in m ³)	29,306

The figures were collected and collated based on the data provided by each manager and as such the completeness, accuracy and consistency of the obtained data cannot be guaranteed. This represents the impact outcomes allocated to PIP VII Global Impact as of year-end 2023, and attributable to PIP VII Global impact based on the proportion of its capital / asset value compared to the total capitalisation of each underlying investment.

PIP Global Impact Fund: Case studies

PIP Global Impact Fund Case Study 1: Commitment to the energy transition by contributing to renewables

Private infrastructure sub-investment manager invests in independent renewable power developers who look to grow their platforms and transform into Independent Power Producers. In general, the focus is on solar PV and onshore wind.

The strategy is aligned with the following UN Sustainable Development Goals:



entire waste value chain. The strategy aims to contribute to a circular economy, closing the waste loop by transforming waste into valuable resources and raw materials.

The strategy is aligned with the following UN Sustainable Development Goals:



PIP Global Impact Fund Case Study 2: Meeting global food needs with fewer resources

Private equity co-investment manager specializing in products and technologies that improve the quality and shelf life of fresh produce thus reducing food waste or spoilage while increasing the availability of produce in markets. Furthermore, these solutions increase harvesting windows, which allows for more efficient yields irrespective of weather conditions and labor resources.

The strategy is aligned with the following UN Sustainable Development Goals:



PIP Global Impact Fund Case Study 3: Investment in waste management and circular infrastructure businesses

Private equity sub-investment manager with a portfolio of businesses that specialize in waste collection, processing and sales, along with complementary services and technology. The strategy addresses the depletion and scarcity of resources, and the increased pressure that waste exerts on the environment – biodiversity loss, climate change, water stress and more. It provides a leading service offering covering the

Risk Management

This section summarizes the primary climate-related risk management processes and mitigation policies for the Crop Trust’s Endowment Fund. These help the Crop Trust understand the materiality of climate-related risks, both in absolute terms and relative to other risks that the Endowment is exposed to.

Established risk management processes

Climate risks could have a financially material impact on the Endowment’s investment

portfolio, which in turn would affect the ability of the Crop Trust to continue to provide critical support to essential genebank operations. Oversight of climate risks, alongside other material financial risks, is therefore a core responsibility of the Investment Committee, with additional climate risk functions delegated to the Sustainability Committee.

The below table details the processes put in place to manage and mitigate climate risks within the Endowment’s investment strategy:

Risk management action	Risk management process established
Establishment of risk frameworks	Establishment of climate risk registry overseen by the SC. This identifies various climate risks including impacts of physical and transition risks with may cause significant losses to the investment portfolio, climate-related risks relating to lower investment performance and climate-related reputational risks. Risk mitigating actions undertaken are detailed, noting actions to be taken by the Crop Trust and those to be taken by the OCIO/ Investment Manager. The risks are graded according to their likelihood and consequence. If a risk is deemed too high, a target risk level is put in place, in which case additional actions are assigned to further mitigate risks to an acceptable level.
OCIO/Investment Manager climate risk oversight	As certain investment functions are delegated to the OCIO/ Investment Manager, they are required to have established risk management processes that include climate risks. The effectiveness of the risk management frameworks in place was therefore a key factor in the decision to appoint the OCIO/ Investment Manager.

Consideration of climate risk in investment fund selection and retention	The OCIO/Investment Manager selects and appoints the sub-investment managers. Manager selection and retention integrates climate risks and opportunities and is overseen by the OCIO/Investment Manager. It leverages Mercer's ESG research framework as a core part of the underlying sub-investment manager selection and regular monitoring process to qualitatively assess sub-investment managers' ESG integration capabilities, including ESG resourcing. The OCIO/Investment Manager believes that exposure to strategies that identify longer-term environmental and social themes, and the companies delivering solutions, is likely to lead to improved risk management and new investment opportunity discoveries.
Climate risk considerations within the strategic asset allocation	In agreeing a new investment strategy, the Crop Trust will receive advice from the OCIO/Investment Manager on how different portfolio allocations may impact climate risk. Analysis is performed from two perspectives, top-down via climate scenario analysis and bottom-up via climate-related metrics.
Climate opportunity considerations within the strategic asset allocation	Priority is given to allocating to climate opportunities within investment strategy design, which could result in investment outperformance as economies implement climate transition objectives. Within the investment portfolio, there are significant allocations to funds that aim to invest capital towards sustainability and climate transition themes. This includes a sustainable global listed equity fund, a sustainable private markets fund and an impact fund that invests into opportunities pursuing positive environmental and social impacts.
Monitoring of portfolio emissions and emission reduction targets	The Crop Trust has set a target that the Endowment Fund will be net carbon neutral by 2040, with interim targets set for 2025 and 2030. The Net Zero Investment Framework has been established to provide a structured approach to managing and mitigating both transition and physical climate-related risks within the investment portfolio at all stages of the transition journey. The OCIO/Investment Manager monitors climate metrics on an ongoing basis for the investment portfolio and across investment funds. Climate performance is assessed regularly through the Net Zero Investment Framework, where each investment fund will be evaluated versus a benchmark as well as year on year changes across climate metrics. Where climate metrics indicate heightened financial risk, the OCIO/Investment Manager will seek to control and mitigate this risk.

Screening of investments with heightened sustainability risks	The OCIO/Investment Manager has a targeted engagement framework in place regarding UN Global Compact Principles. The OCIO/Investment Manager screens and monitors listed portfolios for high-severity ESG-related incidents as flagged according to the UN Global Compact Principles that relate to human rights, labour, environment and corruption issues, as identified by Mercer's appointed external ESG research provider. As part of the engagement framework, sub-investment managers are expected to engage on the particular issue that the company is being flagged for. As part of the engagement framework, Mercer will then engage with the sub-investment managers holding those companies and seek their views on the risk, return and reputation implications as well as engagement insights on the issue. Mercer has an escalation process in place that identifies companies deemed as having high risk severity, and low likelihood of remediation, which can lead to ultimate exclusion of the issuer from the investible universe. This escalation framework takes into account factors such as the sub-investment managers assessment, the OCIO/Investment Manager's assessment, and the materiality of the issuer.
Managing climate risks through stewardship and engagement strategies	Addressing climate change is a stewardship priority and through stewardship the Crop Trust seeks to improve the risks characteristics of its existing investments. Stewardship activity is the responsibility of the sub-investment managers who conduct voting and engagement actions on the Crop Trust's behalf. The OCIO/Investment Manager reviews stewardship activities of the sub-investment managers on an ongoing basis and produces a regular stewardship report for the Crop Trust that includes a section on climate stewardship. Through the Net Zero Investment Framework, the OCIO/Investment Manager have established a climate watchlist, which are investments within the Crop Trust Endowment viewed as priority for engagement action on climate risk. This watchlist is created by analyzing the highest carbon emitters across portfolios that operate in high impact sectors, with either no public decarbonization plan, or those with a plan but additional credibility metrics are not supportive of progress. Sub-Investment managers are then directed to engage with these companies to understand their decarbonization progress and ambitions. The OCIO/Investment Manager has established an escalation framework for these engagements, which is linked to voting and includes the potential for divestment if progress towards alignment with net zero is deemed insufficient or unlikely. Further detail is provided on the climate stewardship strategy below.

Stewardship action to drive change

Stewardship, or active ownership, is central to how the Endowment seeks to mitigate risks and capture opportunities within the investment portfolio. In selecting the OCIO/Investment Manager, the Crop Trust considered its stewardship approach as it delegates investment stewardship oversight to the OCIO/Investment Manager.

Furthermore, as the Crop Trust is one of the clients within the OCIO arrangement with the most ambitious climate objectives (e.g. a 2040 net-zero target), which has led to a close collaboration with the OCIO/Investment Manager to further evolve and progress its climate approach. Thus, the Crop Trust has leveraged

its climate ambition by increasing the OCIO/Investment Manager climate engagement across the entire OCIO platform and assets under management, for example through shaping the regular stewardship priorities.

Mercer's Global Sustainability & Stewardship Manager Survey provides an overview of key stewardship actions conducted on behalf of its OCIO clients, including the Crop Trust. The 2024 survey provides insights from over 100 sub-investment managers within the Mercer Funds. Below are selected case studies of engagement where climate risk mitigations and/or promoting climate transition outcomes were a priority.

Voting and Engagement case studies:

Case study 1 (Voting)	
Sector	Technology – Microsoft Corporation
Theme	Strengthening climate-related disclosure
Proposal	Shareholder proposal regarding report on risks of providing Artificial Intelligence (AI) to facilitate new oil and gas development and production
Proposal Background	- Microsoft is a core company within the sub-investment manager's fund and has therefore been targeted for in-depth engagement, specifically focusing its engagements on two key areas – Responsible AI and AI & Climate. Responsible AI: the sub-investment manager supports the World Benchmarking Alliance Collaborative Engagement on Ethical AI. Analysis by the Alliance details that Microsoft has among the best practices in the market related to AI governance, implementation and assessment of risks and impacts. Nonetheless the sub-investment manager believes it is important to continue to monitor this topic and hold Microsoft to a high level of account, given its influence on the Generative AI sector. AI & Climate: growing topic of concern given the increase of Microsoft's carbon footprint in 2023. The manager is in the process of writing a position paper and continuing individual engagement with Microsoft, as well as exploring potential new collaborative engagement and advocacy initiatives to join. - Microsoft recommended shareholders vote against the proposal, stating that it has already responded to many of the concerns raised in the proposal, limiting the need for a further report.
Voting decision	The sub-investment manager voted for this proposal.
Vote rationale	It seeks to enhance transparency regarding Microsoft's exposure to end-user industries with harmful impact on the environment such as the oil and gas industry, from which a rapid phase-out is necessary to achieve a net-zero world.

	- With the rapid adoption of AI across various industries, companies like Microsoft, which are supporting the development of advanced foundation models and operating large-scale data centers, are positioned at the intersection of both risks and opportunities associated with AI. - The sub-investment manager believes that increasing transparency around Microsoft's AI services and their end-users is a crucial initial step in mitigating potential negative effects and enabling investors to make informed decisions that support the development of sustainable AI.
Outcome	The vote did not pass.
Mercer commentary	Over the 2025 engagement cycle, we will continue to monitor this position and seek to understand if the sub-investment manager is satisfied that Microsoft has put adequate safeguards in place around its AI practices. We will also monitor the engagement progress the sub-investment manager is conducting with Microsoft regarding its carbon footprint.

Case study 2 (Engagement)	
Sector	Energy
Theme	Climate Risk Management – Alignment of climate transition plan
Issue	- The company was flagged for engagement given it operates in a high-impact sector and is a heavy greenhouse gas emitter. - The company has a decarbonisation plan in place, however, the OCIO/ Investment Manager's analysis suggests that this is not based on a Science Based Target initiatives (SBTi) approved target. - In addition, the company is not aligned with the Paris Aligned Investment Initiative's (PAII) Net Zero Investment Framework (NZIF) and fossil fuel reserves continue to expand. On a positive note, Mercer found that emissions intensity decreased over the three-year period to June 2024.
Actions	- Mercer reached out to the sub-investment manager to gain insights on its plan to engage with the company to encourage the company to strengthen its climate targets and improve its climate-related disclosures. - The company has an ambition to become net carbon-zero by 2035, however this target is not SBTi approved. Its decarbonisation progress is currently not on track with climate targets. In addition, it has not committed to phase out capital expenditure on new unabated carbon-intensive assets within a particular timeframe and has not demonstrated a commitment to investing in climate solutions. - The sub-investment manager further confirmed ongoing engagements with the company and has requested the company provide additional commitments for scope 3 emissions, as the company currently has no specific targets in place on this emissions scope.
Mercer commentary	- Mercer has seen the company's carbon intensity decrease over the three-year periods ending in June and December 2024. However there is a lack of clarity on the company's decarbonisation strategy with scope 3 emissions excluded. - Mercer would like to see the sub-investment manager increase efforts to engage with the company to promote greater transparency and alignment with the SBTi and NZIF.

- Mercer will continue to communicate with the sub-investment manager on this company over the 2025 engagement cycle, considering the potential for escalation as necessary in line with the escalation strategy.

Case study 3 (Engagement)	
Sector	Electric Utilities
Theme	Climate Risk Management – Alignment of climate transition plan
Issue	• The company was flagged for engagement given its significant contribution to scope 1 and 2 carbon emissions and high-carbon emissions intensity. • The company has a decarbonisation plan in place. However this has not been approved by SBTi, which the OCIO/Investment manager considers good practice. • In addition, the company is not aligned with the PAII NZIF. Just over 10% of energy production comes from renewable sources and carbon intensity metrics were trending up over the three-year period to 30 June 2024.
Action	• Mercer reached out to the sub-investment manager to gain insights on their approach to strengthen the company's climate-related targets and improve climate-related disclosures. • The sub-investment manager confirmed that the company has a decarbonisation plan in place to reduce Greenhouse Gas Emissions (GHG) by 50% by 2030 (relative to a 2007 baseline) and that the company is on track with the commitments it has made to decarbonise, with a 49% reduction achieved by 2023. • It has also committed to investing in climate solutions and has deployed a wide range of solutions to reduce GHG emissions (e.g. enhanced leak detection and repair technologies) and has embarked on collaborative efforts to advance GHG reductions across the natural gas value chain. • In addition, the company also demonstrated a commitment to not expand its fossil fuel reserves by improving the energy utilization efficiency and lowering the GHG impact of energy utilization.
Mercer commentary	• It is positive that the company is on track to meet its short-term net-zero targets. It has demonstrated a commitment to invest in climate solutions to support longer term targets. • However, Mercer would like to see the company formalize its commitment to net-zero through SBTi verification. Mercer noted though that while the company was initially flagged for engagement partly due to its increasing emissions, Mercer subsequently noted a decline in emissions (three-year trend downwards to December 2024). • Mercer will continue to monitor relevant metrics and data and liaise with the sub-investment manager on its engagement priorities with the company.

Nature risks oversight

The Crop Trust recognizes that nature risks are important to consider across its investment portfolio and incorporation of nature and biodiversity themes is aligned with the Crop Trust's broader mission of crop diversity for food security. The Crop Trust is considering how to more closely include nature in sustainability disclosures in future years. Market standards on nature are nascent, however they are quickly emerging with the creation of new guidelines. Key actions on nature were taken by the OCIO/ Investment Manager as noted below.

- The OCIO/ Investment Manager conducted pilot testing of one of the market standards put in place by the Task Force on Nature-related Financial Disclosures in the Sustainable Global Equity portfolio that the Crop Trust invests in. This involved collecting nature metrics across the investment holdings within the fund, evaluating the current data landscape for nature and biodiversity, and engaging with the asset managers on how they are incorporating nature risks and opportunities within their investment approaches.
- The OCIO/Investment Manager has also expanded engagement frameworks to include a Nature Engagement Target List, leveraging external research such as the Nature Action 100 benchmark and Forest 500 annual report to prioritize issuers based on potentially material nature-related risks. The OCIO/ Investment Manager is a founder signatory to Nature Action 100, a global investor-led initiative aimed at enhancing corporate ambition and action to combat nature and biodiversity loss. Aligned with the core aims of Nature Action 100, the OCIO will implement a nature stewardship strategy on the Crop Trust's behalf.

Metrics and Targets

This section details key outputs from the Crop Trust Net Zero Investment Framework (NZIF), which was established to provide a structured approach to managing and mitigating both transition and physical climate-related risks within the investment portfolio at all stages of the transition journey.

In implementing the NZIF, various climate metrics are measured across the Endowment investment portfolio. The Crop Trust has set a target that the

Endowment Fund will be net carbon neutral by 2040, with interim targets set for 2025 and 2030.

Climate Metrics

The Crop Trust measures the greenhouse gas (GHG) emissions and other climate metrics as far as possible across the Endowment's investment portfolio to assess and manage climate-related risks and opportunities. The GHG emissions scopes and metrics measured are presented below.

Background Information: GHG Protocol and emissions definitions

The GHG Protocol defines three "scopes" for reporting direct and indirect GHG emissions:

- Scope 1: All direct GHG emissions occurring from sources that are owned or controlled by the company, for example from combustion in owned or controlled boilers and vehicles.
- Scope 2: Indirect GHG emissions from consumption of purchased electricity, heat or steam.
- Scope 3: Other indirect emissions that are a consequence of the activities of the company but occur from sources not owned or controlled by the company. Examples include the extraction and production of purchased materials and fuels, and use of products and services sold by the company.

Emissions Metrics	Type of metric	Description
Absolute GHG emissions	Total GHG Emissions (tCO ₂ e)	Market standard to report on total GHG emissions, calculates an investor's share of the total emissions for each company/holding.

Emissions intensity	Carbon Footprint GHG emissions (tCO ₂ e) / \$m invested)	Total GHG Emissions figure weighted to account for the size of the investment made. It seeks to answer how carbon intensive the portfolio is.
	Weighted Average Carbon Intensity Corporate = (WACI) (tCO ₂ e / \$m revenue)	Average exposure (weighted by portfolio allocation) to GHG emissions normalized by revenue or GDP. It seeks to answer how carbon intensive the companies or countries in the portfolio are.
	Sovereign = tCO ₂ e/\$million PPP Adjusted GDP	
Non-Emissions Metrics	Type of metric	Description
Portfolio Alignment	Implied Temperature Rise (ITR)	The ITR metric provides an indication of how companies and investment portfolios align to a global climate temperature e.g. a portfolio is considered 'Paris Aligned' if has an ITR of 2°C or below.
% of portfolio with SBT-verified targets	Net-zero Transition Alignment Metric	A measure of how many companies in a portfolio have submitted climate transition plans that have been verified or supported by the Science Based Targets Initiative (SBTi)

Further details are included in the Technical Appendix.

The climate metrics for the Endowment investment portfolio for 2024 (31 December 2023 reporting date) are detailed in the following tables:

Table 1: Scope 1 & 2 emissions (Listed Assets)	Metric	Data Coverage	Portfolio Dec-23	Comparator (MSCI ACWI) Dec-23
Weighted Average Carbon Intensity	tCO ₂ e / \$m revenues	90%	128	129
Carbon Footprint	tCO ₂ e / \$m invested	89%	62	54
Absolute Corporate Assets Carbon Emissions	tCO ₂ e	89%	8,172	-
Assets with SBTi-verified decarbonization plans	% eligible portfolio assets		33%	40%

Table 2: Scope 1 & 2 emissions (Sovereign Bonds)	Metric	Data Coverage	Portfolio Dec-23
Sovereign Intensity	tCO2e / \$m PPP-adjusted GDP	98%	390
Absolute Sovereign Assets Carbon Emissions	tCO2e	98%	1,900

Table 3: Scope 3 emissions (Listed Assets)	Metric	Portfolio Dec-23	Comparator (MSCI ACWI) Dec-23
Upstream Absolute Emissions	tCO2e	18,356	-
Downstream Absolute Emissions	tCO2e	32,356	-
Upstream Carbon Footprint	tCO2e / \$m invested	78	92
Downstream Carbon Footprint	tCO2e / \$m invested	138	245
Upstream Weighted Average Carbon Intensity	tCO2e / \$m revenues	154	248
Downstream Weighted Average Carbon Intensity	tCO2e / \$m revenues	323	458

Data quality

Scope 1 & 2 emissions (Listed Assets)	% assets
Reported	42%
Estimated	9%
Not Reported	5%
Total	56%
Scope 3 emissions (Listed Assets)	
Estimated	50%
Not Estimated	6%
Total	56%
Non-eligible assets	44%

(Sovereign bonds, private markets assets, cash and derivatives)

Data as of 31/12/2023, source MSCI Barra One. Calculated figures are rebased to 100% to represent full coverage. Figures are based on the best available data at time of calculation. Calculation methodologies are subject to change based on evolving market standards.

Sovereign analysis has been conducted in line with the recommended methodology set out by PCAF, Intensity formula Product Emissions / PPP Adjusted GDP (\$m). Data for Production Emissions of GHG for 2021 sourced from EDGARv7.0 website https://edgar.jrc.ec.europa.eu/dataset_ghg70. Crippa et al. (2021 https://edgar.jrc.ec.europa.eu/report_2021, 2022 https://edgar.jrc.ec.europa.eu/report_2022). Data for PPP Adjusted GDP for the latest available data (2020-2021) sourced from The World Bank <https://data.worldbank.org/indicator/NY.GDP.MKTP.PP.CD>

Absolute emissions include corporate exposures (equity, corporate credit and securitised assets) and sovereign exposures as relevant. Excluded from the analysis are derivatives, private markets allocations and some collective investment schemes held within the funds with no look through available. Total excluded assets represent 44% of the Endowment portfolio.

The tables above show a total comparator benchmark (MSCI ACWI) and table 1 (listed assets within the Crop Trust portfolio) had slightly higher scope 1 and 2 emissions intensity (carbon footprint) than benchmark due to allocations to emerging markets credit and Asian high yield, however the investment philosophy is not to withdraw capital from markets to hit an emissions figure but to ensure that the companies in which the Crop Trust invests are continuing to align themselves with climate transition and continue to meet their published emission reduction targets. The OCIO/Investment Manager is actively monitoring portfolio emissions progress on this basis to make sure that the portfolio in aggregate continues to progress along the climate pathway whilst supporting an orderly transition by continuing to provide finance to emerging markets.

In practice, each fund has its own comparator benchmark and based on these at the measurement point of 31 December 2023, all of the funds in the Crop Trust portfolio were in line or ahead with the decarbonisation target relative to their benchmarks.

The Crop Trust recognizes the challenges associated with various metrics, tools and modeling techniques used to assess climate change risks. The Crop Trust aims to work with the OCIO/Investment Manager who will engage with the underlying sub-investment managers to continuously improve the approach to assessing and managing risks over time as more data becomes available. The Technical Appendix of this report sets out further information on each metric along with the data limitations and assumptions used in collating these metrics.

Net Zero Investment Framework

The NZIF has set a target, based on Weighted Average Carbon Intensity emissions intensity, that the Endowment Fund will be net carbon neutral by 2040, with interim targets set for 2025 and 2030.

The net-zero 2040 target was agreed to align with the European Policy pathway in the early years, with an accelerated decarbonization pathway after 2030 to achieve the 2040 net-zero date. The European Policy curve aims to align with the Paris Agreement decarbonization ambitions. The net-zero target is also compatible with a 1.5°C scenario under the Intergovernmental Panel on Climate Change (IPCC).

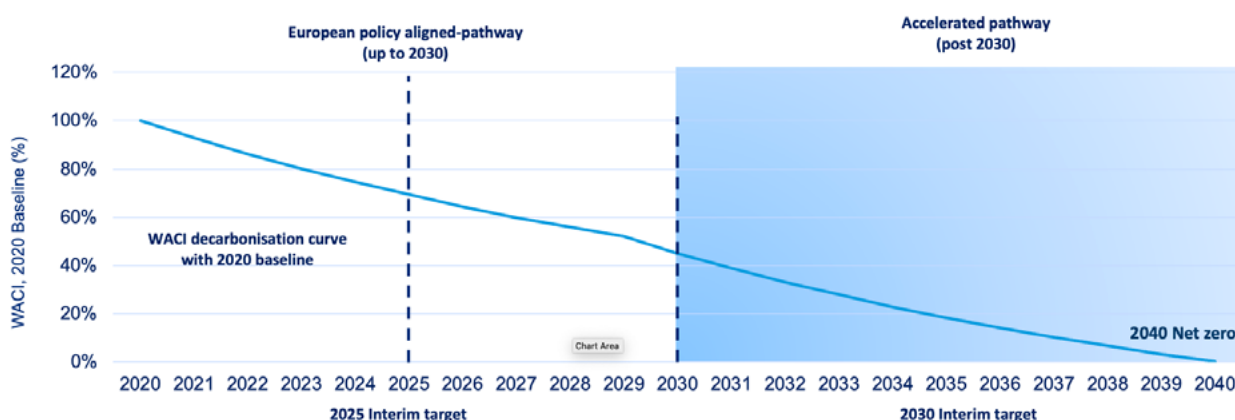
Interim targets have been agreed upon and are in line with the Institutional Investors Group on

Climate Change (IIGCC) advice on target setting, which states that they need to be set no more than five years apart. The interim target dates chosen are 2025 and 2030, i.e., five and ten years after the 2020 baseline.

The NZIF currently applies to scope 1 and 2 emissions. Although scope 3 emissions are not included in the NZIF target at this time, they will be included once data quality improves.

The NZIF currently covers around 56% of Endowment assets as of 2024 (31 December 2023 reporting date), defined as those related to listed corporate entities (equities and corporate bonds). The Crop Trust expects coverage of other asset classes to increase as the investment industry develops and target-setting frameworks for non-listed and sovereign assets are established.

NZIF emissions reduction pathway



Note: The years in the chart above correspond to analysis done on the preceding day, i.e., 2020 baseline equates to 31 December 2019.

The NZIF details the Crop Trust's climate strategy, including a decarbonization pathway and interim emission targets. The table below shows the Crop Trust's interim emissions targets and its progress against the decarbonization pathway by 2024:

Year	European policy curve - Total Emissions Level (%)	Crop Trust Level (%)
2020	100.0%	100.0%
2021	92.9%	85.6%
2022	86.3%	71.2%
2023	80.1%	72.5%
2024	74.5%	66.5%

As of 2024 (31 December 2023 reporting date), the Endowment listed assets excluding non-corporate bonds and private markets that have reduced scope 1 and 2 emissions intensity by 33.5% versus 27.5% at the 31 December 2022 reporting date, relative to the 2020 baseline. The Endowment is therefore ahead of its agreed decarbonization pathway.

The Endowment's carbon intensity has reduced since the 2020 baseline through 2024, and the majority of the underlying funds in which the Endowment invests have reduced their emissions over this period. In particular, the Emerging Markets Equity strategy carbon intensity has fallen 63% and the Multi Asset Credit strategy carbon intensity has fallen 48%.

These emissions reductions were boosted by additional commitments made by the OCIO/ Investment Manager under SFDR Article 8 disclosures, such as excluding carbon-intensive issuers that do not have strong transition potential.

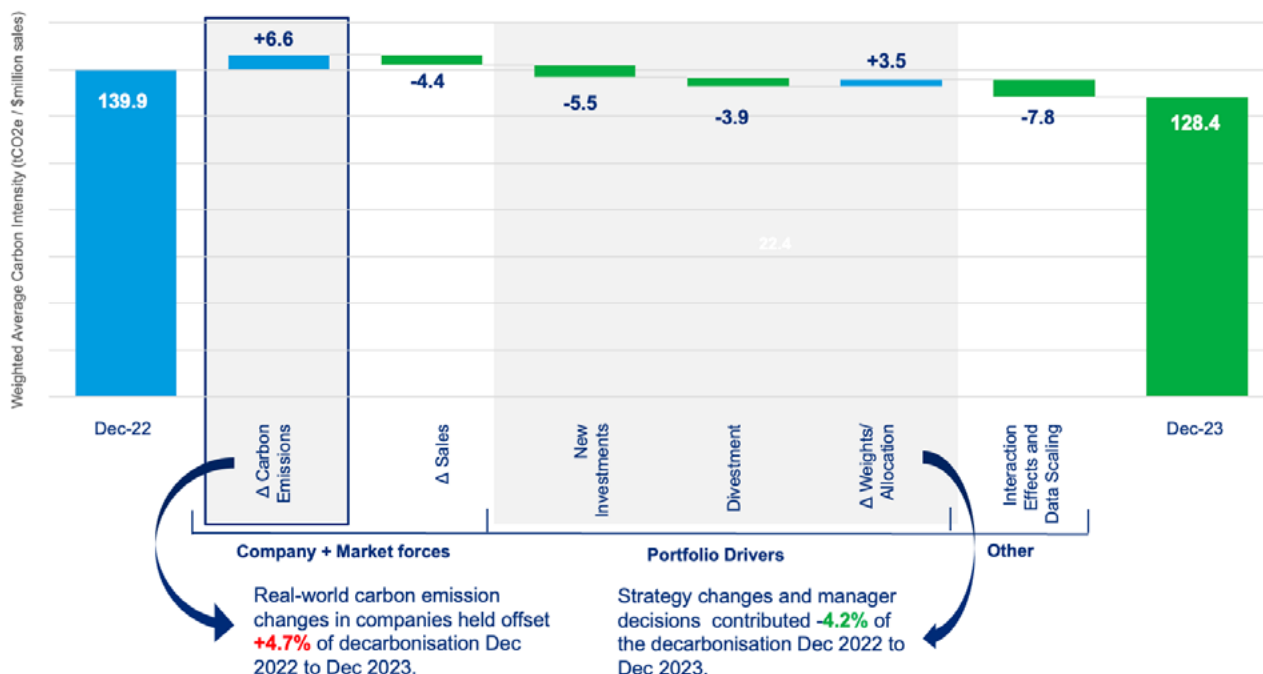
Looking ahead, as noted in the strategy section, the Target Crop Trust SAA set to be implemented in 2025 has enhanced climate transition characteristics. This results primarily from a new allocation to Paris-aligned equities, which is expected to accelerate decarbonization progress and perform favorably in climate transition scenarios. This passive strategy tracks an EU Paris-Aligned Benchmark, meaning it has annual decarbonization built into the index construction methodology, as well as ESG tilting and explicit exclusions on companies that derive certain levels of revenues from fossil fuel-related activities.

Attribution of climate emissions

Attribution analysis can provide additional insight into understanding the drivers of carbon intensity changes to make better-informed decisions. The following chart details the attribution analysis for the change to the Endowment emissions as measured by WACI between 2023 and 2024.

As shown in the chart, while the carbon intensity of the Endowment portfolio fell during 2023, the carbon emissions of the underlying companies increased. This is due to a large part to data coverage improvements. During 2023, the OCIO/ Investment Manager improved the accuracy and quality of data coverage of some emerging markets strategies that were previously estimated due to lack of data. The new reported data showed a higher carbon intensity than the estimated data, which caused the emissions intensity figures for the emerging markets mandates to increase.

Weighted Average Carbon Intensity Reduction Drivers



Source : Mercer Analysis, using asset values as at 31 December 2023 ©2024 MSCI ESG Research LLC. Reproduced by permission.

Looking Forward

The Crop Trust has produced this Climate Disclosures Report on a voluntary basis. Mindful of the resources available, it intends to provide updated external reporting on its climate strategy and risk management on a three-year cycle, consistent with the review of the Endowment's strategic asset allocation.

It expects methodologies, tools and data in climate and sustainability to improve over time. Regular monitoring will be carried out as part of the stewardship of the Endowment, and the Crop Trust remains committed to the responsible management of its assets.

Appendix A

Technical Appendix

Climate scenario modeling approach

Investment and Funding Climate Scenario Analysis Assumptions	Rapid Transition	Orderly Transition	Limited Transition	Failed Transition
Summary	Sudden divestments in 2025 to align portfolios to the Paris Agreement goals have disruptive effects on financial markets with sudden repricing followed by stranded assets and a sentiment shock.	Political and social organizations act quickly and predictably to implement the recommendations of the Paris Agreement to limit global warming to below 2°C above pre-industrial levels by 2100.	Policymakers implement limited NDCs and fall short of meeting the Paris Agreement goals. Global warming can reach over 2.6°C above pre-industrial levels in 2100.	The world fails to meet the Paris Agreement goals and global warming reaches 3.7°C above pre-industrial levels by 2100. Physical climate impacts cause large reductions in economic productivity and increasing impacts from extreme weather events.
Expected emission and energy production	Net zero by 2050 5% produced by non-renewable sources, with 80% produced by various renewable sources by 2060.	Around 12GtCO ₂ by 2063, 10% produced by non-renewable sources, with 72% produced by various renewable sources by 2060.	Around 27GtCO ₂ by 2063, 15% produced by non-renewable sources, with 75% produced by various renewable sources by 2060.	Around 38GtCO ₂ by 2063, 43% produced by non-renewable sources, with 43% produced by various renewable sources by 2060.

Key policy and technology assumptions	A highly ambitious low-carbon policy and rapid technology transition. Higher carbon prices, larger investment in energy efficiency and faster phase out of coal-fired power generation.	An ambitious set of policies are introduced, leading to improvements in energy efficiency and replacement of unabated fossil fuel-based technologies with lower-carbon alternatives.	Policies are implemented to encourage decarbonization but have limited scope (only active carbon price schemes that have pricing up to 2060 are included), particularly for large carbon emitters, aside from key economies that do not reach their NDC targets.	Existing policy regimes are continued with the same level of ambition with no new policies enacted.
Financial climate modelling	Pricing in of transition and physical risks of the coming 40 years occurs within one year in 2025. As a result of this aggressive market correction, a confidence shock to the financial system takes place in the same year.	Pricing in of transition and physical risks associated with 1.5°C up to 2050 takes place over the first four years. The additional damage beyond 1.5°C impacts asset performance on a year-by-year basis with no advance pricing in.	Physical risks are priced in two different periods: 2026-2030 (risks of first 40 years) and 2036-2040 (risks of 40-80 years), slightly mitigated by the attempted action that translate into slight transition risks in the 2026-2030 period.	Physical risks are priced in two different periods: 2026-2030 (risks of first 40 years) and 2036-2040 (risks of 40-80 years).
Physical risks considered	Physical risks are regionally differentiated, consider variation in expected temperature increase per region and increase dramatically with rising average global temperature. Physical risks are built up from: - Gradual physical impacts associated with rising temperature – agricultural, labor, and industrial productivity losses - Economic impacts from climate-related extreme weather events - Current modeling that does not capture environmental tipping points or knock-on effects – e.g., migration and conflict)			

Source: Mercer and Ortec. Climate scenarios as at 30 June 2024.

The return impacts of the climate scenarios represented in this report are relative to the 'baseline'. The baseline represents what we are assuming the market is currently pricing in. The baseline includes a 10% to a Rapid Transition, 40% weight to an Orderly Transition, 10% weight to a Failed Transition, and 40% to a range of low-investment-impact scenarios.

Limitations associated with climate modeling

Climate scenario modeling is a complex process. The Crop Trust is aware of the modeling limitations. In particular:

1. The further into the future you go, the less reliable any quantitative modeling will be.
2. There is a reasonable likelihood that physical impacts are grossly underestimated. Feedback loops or 'tipping points', like permafrost melting, are challenging to model particularly around the timing of such an event and the speed at which it could accelerate.
3. Financial stability and insurance 'breakdown' are not modeled. A systemic failure may be caused by either an 'uninsurable' 4°C physical environment or due to the scale of mitigation and adaption required to avoid material warming of the planet.

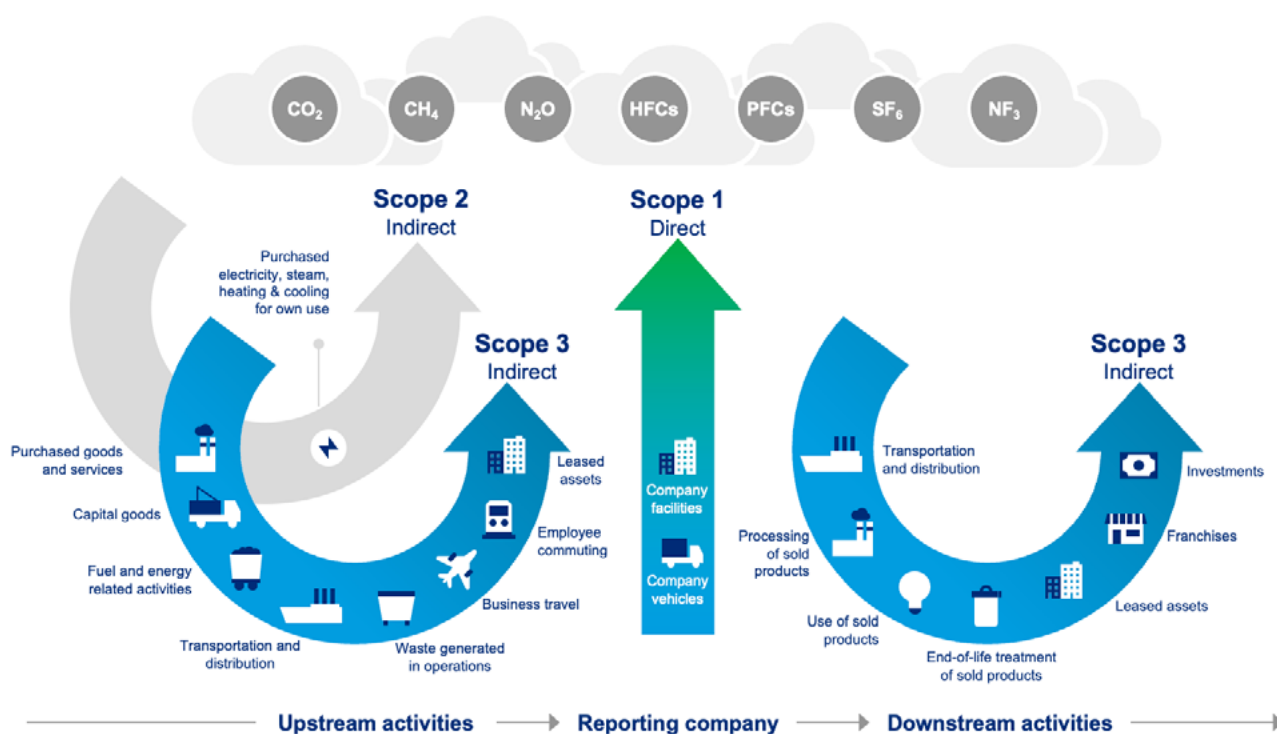
4. Most adaptation costs and social factors are not priced into the models. These include population health and climate-related migration.
5. New and emerging risks, such as the impact of climate change on biodiversity loss and vice versa, is expected to be integrated into climate scenario modeling over time once the supporting science and impact on econometrics and finance are better understood.

Climate metric analysis approach

Total Greenhouse Gas Emissions

This metric takes an ownership approach to answer what proportion of a company's or asset's emissions an investor owns and is therefore responsible for financing. It includes the seven types of greenhouse gases (as defined in the Kyoto Protocol²) across the three scopes of emissions, summarized below.

Scope 1, 2 and 3 emissions



Source: GHG Protocol

Emissions of the seven greenhouse gases have different impacts on climate change. To simplify reporting, each GHG is calibrated relative to carbon dioxide and is reported as 'carbon dioxide equivalent' emissions (CO₂e). In this way, the Crop Trust can consistently compare companies that emit different amounts of different gases. Recognizing the different methodologies used to calculate absolute emissions for sovereigns and corporates, the Crop Trust reports subtotals at the corporate and sovereign levels and a Total Greenhouse Gas Emissions figure.

The Crop Trust has chosen this metric to understand the absolute amount of emissions financed by the Endowment's investments. In respect of sovereign debt investments, the Crop Trust follows the Partnership for Carbon Accounting of Financials ('PCAF') to derive absolute emissions.

²https://unfccc.int/kyoto_protocol

Listed Assets (equities and corporate bonds)		
Emissions Metrics	Overview	Description
Absolute GHG emissions	Total GHG emissions: tons of CO2 and equivalents (tCO2e)	Calculates an investor's share of the total emissions for each company/holding. It seeks to answer what emissions the investor is responsible for.
Carbon footprint	tCO2e / \$million invested	Total GHG Emissions figure normalised to take account of the size of the investment made. It seeks to answer how carbon intensive the portfolio is.
Weighted Average Carbon Intensity (WACI)	tCO2e / \$million revenue	Average exposure (weighted by portfolio allocation) to GHG emissions normalised by revenue. It seeks to answer how carbon intensive the companies in the portfolio are.
Non-Emissions Metrics	Overview	Description
% of portfolio with SBTi targets	Alignment metric	A measure of how many companies in a portfolio have submitted climate transition plans that have been approved by the Science Based Targets Initiative (SBTi). There is more detail on SBTi in the appendix.
Sovereign Bonds		
Emissions Metrics	Overview	Description
Sovereign Methodology	Tons of CO2 and equivalents (tCO2e)	Absolute emissions are calculated as follows: Market Value of exposure / PPP-adjusted GDP * Sovereign Production Emissions.
	tCO2e/\$million PPP-adjusted GDP	Intensity numbers are calculated as follows: Country Production Emissions / PPP-adjusted GDP (\$Million).

Weighted Average Carbon Intensity

Weighted Average Carbon Intensity (WACI) is an intensity measure of emissions that normalizes a company's total GHG emissions figure by its revenue to take into account the carbon intensity of its operations. This metric is calculated by taking the total carbon emissions of the investment and dividing it by annual company revenue.

Carbon Footprint

Carbon Footprint is an intensity measure of emissions that takes the Endowment's total GHG emissions figure and normalizes it to take into account the size of the investment.

Analyzing an investment fund's Carbon Footprint assists the Crop Trust in identifying carbon-intensive sections of the investment portfolio.

Sovereign Bonds

A different approach is taken for sovereign bonds, where the specified sovereign GHG emissions are normalized by Purchasing Power Parity adjusted Gross Domestic Product (PPP-adjusted GDP). A portfolio-level intensity metric is calculated as the weighted average of the underlying holdings' intensity metrics.

Implied Temperature Rise

This is a forward-looking metric that considers the pledges, commitments and business strategy changes that underlying investee companies/issuers have made. It provides a prediction of the potential temperature rise over the rest of the century based on the activities of those companies and issuers. The metric illustrates the degree of portfolio alignment with the goals of the Paris Agreement.

The calculation of the level of warming is determined by mapping a given company's/issuer's level of over/undershoot (relative to its carbon budget) to a temperature outcome.

The Crop Trust has chosen this metric to include in this report because of its simplicity in presentation and a useful way to see at a glance the positioning of a fund relative to 1.5°C economy. This is also a measure of climate transition risk with greater transition risk highlighted in asset allocations with a higher Implied Temperature Rise.

Data Quality

Data quality aims to represent the proportions of the portfolio for which the Crop Trust has high-quality data. The Crop Trust has considered whether the underlying emissions data has been verified by a third party, reported by the company, estimated by the data provider, or unavailable to determine how representative the analysis is of the Endowment's actual portfolio.

Data quality also assists the Crop Trust in monitoring the quality of reporting over time, as companies are expected to continually improve their reporting on climate-related metrics. As the quality of data improves, the decision usefulness of the climate metrics reported on the Endowment's portfolio increases. In addition, the Crop Trust can identify the companies in the portfolio that are not currently reporting emissions data and use this as the basis for engagement.

Data Sources & Methodologies

Corporate climate-related metrics provided by Mercer have been sourced from MSCI Barra One as of 31 December 2023.

Sovereign climate-related metrics have been calculated in line with the recommended methodology set out by PCAF. Data for Production Emissions (GHG) for 2021 sourced from EDGARv7.0 website https://edgar.jrc.ec.europa.eu/dataset_ghg70. Crippa et al. (2021 https://edgar.jrc.ec.europa.eu/report_2021, 2022 https://edgar.jrc.ec.europa.eu/report_2022). Data for PPP Adjusted GDP for the latest available data (2020-2021) sourced from The World Bank <https://data.worldbank.org/indicator/NY.GDP.MKTP.PP.CD>

Scope of Emissions

Scope 1, 2 and 3 emissions data has been included in this report, except where noted. Scope 3 emissions are often the largest proportion of an organization's emissions, but they are also the hardest to measure. The complexity and global nature of an organization's value chain make it hard to collect accurate data. The data coverage for Scope 3 emissions data is improving, but the assessment of an invested company's carbon footprint could be considered an understatement. Because Scope 3 emissions can be challenging to measure reliably, we use only estimated datasets as calculated by MSCI, as it allows for a consistent calculation methodology. Scope 1, 2 and 3 emissions are as defined by the GHG protocol.

Data Coverage

Data coverage refers to the proportion of an asset in which the various climate-related metric data is available. There are gaps in the data as:

- Some publicly listed companies are not publishing climate-related data or are providing poor-quality data. This is relevant to public equity and corporate bonds.
- Many private companies do not currently produce climate-related data and coverage for private markets, such as private equity and private debt, will be low or zero for mature funds.
- Sovereigns or governments may not publish climate-related data in the public domain. This is a particular challenge for emerging market debt. For UK government debt, data is available but there is a delay in the data being published.
- Short-term instruments, such as secured finance assets, have limited data available due to the short-term nature of the individual assets.
- Metrics in this report use a pro-rata approach to scale up each climate metric to present the data as if full coverage was available for each asset. This assumes that the part of an investment fund that does not have data available has the same investment characteristics (for example, same sector or geography) as the part where there is data.

The Crop Trust is working with the Investment Advisor and OCIO/Investment Manager to address the data gaps, as far as they are able.

Proxy Data

For some asset classes, data coverage is too low (or no data is available) to be able to take a pro rata approach. Use of proxy data (data of other asset classes or funds that broadly represent a given fund) can help provide climate-related data where coverage for an asset class/fund is limited.

The Crop Trust considered the use of proxy metric data for private some passively managed external third-party pooled funds, using the index as a proxy for the pooled vehicle invested in. These assets represent 1.5% of the total asset allocation.

Climate Change Jargon

Commonly used phrases explained:



Paris Alignment

Bringing investments in line with the objectives of the international Paris Agreement on climate change.

In 2015, the Paris Agreement set out global goals to mitigate and adapt to climate change.

To hold the increase in the earth's global mean surface temperature to "well below 2°C above preindustrial levels and to pursue efforts to limit the temperature increase to 1.5°C".



Net Zero

The balance between the amount of greenhouse gas produced, after cutting emissions, and the amount removed from the atmosphere.

In December 2019, 66 countries, 398 cities, 786 businesses and 16 asset owners had already committed to net-zero emissions by 2050.



Inevitable Policy Response

An acceleration of climate related policy announcements is expected in 2023 – 2025.

The PRI (Principles for Responsible Investment) forecasts accelerated policy announcements to meet the Paris Agreement objectives mid-century and requiring countries to meet their revised climate pledges.

Glossary

C

Carbon footprint

The amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, organization or community. Carbon footprint is calculated for each company as (Scope 1 and 2 carbon emissions / \$m investments). See also Scope 1, 2, 3 emissions and Weighted Average Carbon Intensity (WACI).

Carbon intensity

The amount of emissions of carbon dioxide (or other greenhouse gasses) released per unit of another variable such as revenue, gross domestic product (GDP), per \$1million invested etc. See also Weighted Average Carbon Intensity (WACI).

Carbon price

The price for avoided or released carbon dioxide (CO₂) or CO₂-equivalent emissions. This may refer to the rate of a carbon tax, or the price of emission permits. In many models that are used to assess the economic costs of mitigation, carbon prices are used as a proxy to represent the level of effort in mitigation policies.

Carbon neutrality

Achieved by offsetting emissions by paying for credits (usually certified via new forestry equivalents that provide carbon removal). Carbon neutrality is similar to net zero targeting – the latter requires actual emissions reductions to meet targets though (rather than purchasing offsets). See also net zero CO₂ emissions.

D

Decarbonisation

The process by which countries, individuals or other entities aim to achieve zero fossil carbon existence. Typically refers to a reduction of the carbon emissions associated with electricity, industry and transport.

G

Global warming

The estimated increase in global mean surface temperature expressed relative to pre-industrial levels unless otherwise specified. See also Pre-industrial.

Greenhouse gases

Gases in our planet's atmosphere which trap heat. They let sunlight pass through the atmosphere but prevent heat from leaving the atmosphere. Greenhouse gases include Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur Hexafluoride (SF₆), Nitrogen Trifluoride (NF₃).

I

Inevitable policy response

A scenario that expects an acceleration of climate-related policy announcements in 2023–2025, which has been supported by the Principles for Responsible Investment (PRI).

M

Mitigation (of climate change)

A human intervention to reduce emissions or enhance the sinks of greenhouse gases. Mitigation strategies In climate policy, mitigation strategies are technologies, processes or practices that contribute to mitigation, for example, renewable energy (RE) technologies, waste minimization processes and public transport commuting practices.

N

Net zero CO₂ emissions

Net zero carbon dioxide (CO₂) emissions are achieved when CO₂ emissions are balanced globally by CO₂ removals over a specified period. The term “net zero” is also typically associated with the 2050 date or earlier, as this is aligned with the scientific recommendations to achieve a 1.5°C scenario. See also Carbon neutrality (which differs slightly).

P

Paris Agreement

The Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) was adopted in December 2015 in Paris at the 21st session of the Conference of the Parties (COP 21) to the UNFCCC.

The agreement, adopted by 196 Parties to the UNFCCC, entered into force on 4 November 2016 and as of May 2018 had 195 Signatories and was ratified by 177 Parties.

One of the goals of the Paris Agreement is "Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels", recognizing that this would significantly reduce the risks and impacts of climate change.

Additionally, the Agreement aims to strengthen the ability of countries to deal with the impacts of climate change.

Physical risks

Dangers or perils related to the physical or natural environment that pose a threat to physical assets, e.g. buildings, equipment and people. Mercer's scenario analysis grouped these into the impact of natural catastrophes (for instance sea level rise, flooding, wildfires, and hurricanes) and resource availability (particularly water). See also Transition risks.

Pre-industrial

The multi-century period prior to the onset of large-scale industrial activity around 1750. The reference period 1850 to 1900 is used to approximate pre-industrial global mean surface temperature (GMST).

Principles for Responsible Investment (PRI)

Non-profit organization that encourages investors to use responsible investment to enhance returns and better manage risks. It engages with global policymakers and is supported by, not but part of the United Nations. It has six Principles for Responsible Investment that offer a menu of possible actions for incorporating ESG issues into investment practice. Mercer is a founding signatory of these Principles.

R

Resilience

The capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure while also maintaining the capacity for adaptation, learning and transformation.

S

Scope 1, 2, 3 emissions

Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

Stranded assets

Assets exposed to devaluations or conversion to "liabilities" because of unanticipated changes in their initially expected revenues due to innovations and/or evolutions of the business context, including changes in public regulations at the domestic and international levels.

T

Transition

The process of changing from one state or condition to another in a given period of time. Transition can be in individuals, firms, cities, regions and nations, and can be based on incremental or transformative change.

Transition risks

Risks from policy changes, reputational impacts and shifts in market preferences, norms and technology. See also Physical risks.

W

Weighted Average Carbon Intensity (WACI)

The carbon intensity of a portfolio, weighted by the proportion of each constituent in the portfolio. Carbon intensity is calculated for each company as (Scope 1 and 2 carbon emissions / \$m sales). See also Carbon footprint.

Important notices from data providers

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