



# 2022 Climate Report

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Prepared in Alignment with the  
Recommendations of the Task Force on  
Climate-related Financial Disclosures (TCFD)





# TABLE OF CONTENTS

Executive Summary.....	3
Key Figures.....	4
Key achievements.....	4
I. Governance & Management.....	5
II. Strategy.....	7
III. Risk Management.....	17
IV. Metrics & Targets.....	21

# EXECUTIVE SUMMARY

*Acadian Asset Management LLC is a Boston-headquartered investment manager and an investment adviser registered with the U.S. Securities and Exchange Commission (“SEC”). Along with our wholly owned affiliates in Singapore, Australia, and the UK, we specialize in the active management of systematic investment strategies. Led by a highly experienced team, we apply a disciplined framework to a broad universe and focus our extensive research capabilities on developing customized investment management strategies for our clients.*

Acadian was the first quantitative asset manager to become a signatory of the Principles for Responsible Investing (PRI) in 2009. We joined the Net Zero Asset Managers initiative in 2021.

Aside from regulatory requirements or specific client requests, our commitment to ESG innovation is for the principal purpose of enhancing risk-adjusted returns. This is underpinned by our proprietary empirical research which finds that investors typically underreact to a range of non-financial information. The resulting security mispricings are, in part, attributable to the difficulties associated with collecting, processing and deciphering the materiality of sustainability considerations. In our view, a systematic process is the most effective way to analyze ESG return drivers and implement them successfully in portfolios. Systematic investing’s central features—its use of alternative data, structured forecasting methods, and flexible portfolio construction—help us extract alpha from ESG concepts and, upon request, align portfolios with clients’ ESG-related needs.

Moreover, it is well known that there is a relatively low correlation across the major ESG data providers’ scores, highlighting subjectivity in interpretation and the potential for measurement error. These challenges can often hinder investors’ abilities to integrate ESG metrics into investment processes. Acadian’s systematic investment process is ideally equipped to overcome such concerns through its ability to quantify the value-relevance of ESG signals.

It is important to emphasize that we integrate ESG signals across our investment process for the sole purpose of enhancing the predictability of risk-adjusted returns. In particular, our empirical research typically finds that the following sustainability characteristics are material:

- Investors’ perceptions of carbon pricing that may impact high/low carbon emitters.
- Strong corporate cultures - investors typically underestimate the value-relevance of human capital management, gender diversity and labor practices.
- Stable, independent boards with sound corporate governance structures and a diversity of experience and qualifications.

We also offer clients a wide set of ESG investment options tailored to their needs upon request. These include values-based and norms-based exclusions, as well as the ability to tilt portfolios to target specific ESG exposures. Given the breadth of Acadian’s investable universe consisting of more than 40,000 securities, together with our ability to implement advanced portfolio construction techniques, ESG exclusions often have a negligible impact on alpha degradation.

Acadian is committed to furthering its research into ESG metrics from an alpha perspective and offering dedicated sustainability solutions to meet our clients' needs. This report outlines the ways in which Acadian integrates sustainability considerations into our investment process, the climate-related risks and opportunities we have identified, and the clear and tangible targets we have established.

## KEY FIGURES

- Net zero signatory in 2021
- Assets Under Management at Q4 2022 was \$93.6 Bn
- 100% of assets have ESG considerations, for the sole purpose of enhancing risk-adjusted returns
- 39% with additional ESG constraints or exclusions as of Q4 2022
- \$3.6 bn in dedicated sustainability strategies as of Q4 2022
- 51% climate related shareholder considerations supported in 2022
- 110 Engagements across calendar year 2022, of which 79 were Climate Action Engagements
- All our engagements are aligned with signals that are integrated into our investment process
- These signals are embedded for the sole purpose of enhancing risk-adjusted returns
- Total Corporate GHG Emissions in 2022: 2,134.55 tCO<sub>2</sub>e

## KEY ACHIEVEMENTS

- 2021 Recognized as a Responsible Investment Leader by the Responsible Investment Association Australasia (RIAA)
- 2021 Shortlisted for a PRI Award - ESG Incorporation Initiative of the Year
- 2022 Shortlisted for a PRI Award - Stewardship Initiative of the Year
- 2022 Joined the Net Zero Asset Managers Initiative and disclosed our initial targets.

MODULE	2020 PRI SCORES	2021 PRI SCORES
Incorporation	A+	
Strategy & Governance	A+	
Active Ownership	A+	
Incorporation		★ ★ ★ ★ ★
Investment & Stewardship Policy		★ ★ ★ ★ ★

*Acadian Asset Management has been awarded these scores for the specific modules above. These as well as additional module scores can be found in the assessment report which is compiled from Acadian's responses to the PRI Reporting Framework. The Transparency Report showing these responses is available on PRI's website. The scores are not indicative of any strategy performance returns nor are they indicative of future performance.*

## Document Guide

DISCLOSURE CATEGORY	TOPIC	REFERENCE SECTION/PAGE #
<b><u>I. Governance</u></b>		
	A.) Board Oversight	Pages 5 - 6
	B.) Management's Role	Pages 5 - 6
<b><u>II. Strategy</u></b>		
	A.) Climate Related Risks and Opportunities	Pages 17 - 20
	B.) Impact of Climate Related Risks and Opportunities	Pages 13; 20
	C.) Strategy Resilience	Pages 10 - 11
<b><u>III. Risk Management</u></b>		
	A.) Identification and Assessment of Climate Related Risk	Pages 8 - 9
	B.) Process for Managing Climate Related Risk	Pages 17 - 19
	C.) Integration into Overall Risk Management	Page 20
<b><u>IV. Metrics and Targets</u></b>		
	A.) Metrics Used to Assess Climate Related Risk & Opportunities	Pages 21-23
	B.) Greenhouse Gas Emissions and Risk	Pages 21-23
	C.) Risk Targets and Performance Against Targets	Pages 21-23

## I. GOVERNANCE & MANAGEMENT

Acadian regularly discusses ESG considerations across the following committees and at the following senior management levels:

### **Executive Management Team (“EMT”):**

The Executive Management Team comprises three senior individuals who view responsible investing and broader sustainability goals as critical to the firm's success. Many of Acadian's C-suite and senior managers are members of ESG committees and groups which play a role in the firm's overall performance.

### **Chief Executive Officer (“CEO”):**

Our CEO chairs our Corporate Sustainability Committee, which comprises senior members across our global investment and client service teams. The CEO has direct objectives linked to our responsible investing goals.

### **Chief Investment Officer (“CIO”):**

The Chief Investment Officer is ultimately responsible for setting Acadian's investment strategy and policy, including ESG, with broad input from the Responsible Investing Committee, Investment Policy Committee, and the Portfolio Management Team.

### **Chief Marketing Officer (“CMO”)**

The Chief Marketing Officer oversees Acadian's Product Strategy team as well as client service. In these roles the CMO helps ensure that ESG related product development is in line with client needs and Acadian's ESG vision and goals as a firm, as well as ensuring that ESG related research and commentary is regularly conveyed to clients and other stakeholders.

### **Committees**

The four committees below report to the EMT:

#### **Compliance and Risk Committee:**

Acadian's *Compliance and Risk Committee* is co-chaired by our Enterprise Risk Manager and our Chief Compliance Officer & General Counsel. It is comprised of senior managers representing Acadian's main business groups. This committee assists with the implementation of our Compliance Program, as well as conflict identification, mitigation, and any required disclosure including any related to Responsible Investing.

#### **Product Management Committee:**

The Product Management Committee meets regularly to discuss client solutions. From an ESG perspective, this has included discussions of SFDR Level 1 and 2 requirements for product development and client reporting.



### Corporate Sustainability Committee:

The Corporate Sustainability Committee was formed in 2020 and is chaired by our CEO. The committee meets bi-monthly to discuss sustainability risks and opportunities for Acadian as a firm. Focus areas include establishing best practices to reduce the firm's carbon emissions, TCFD reporting and monitoring of the firm's supply chain.

### Responsible Investing Committee:

The Responsible Investing Committee (RIC) comprises senior executives including Acadian's CEO, CIO, and CCO. The committee convenes regularly to discuss the integration of ESG considerations across Acadian's investment process. Examples have included the establishment of a sustainability framework to enhance our UCITS' fund offerings, and developing ESG factors within Acadian's quantitative investment model.

### Working Groups

Further to these committees, Acadian has several working groups designed to investigate key investment topics and provide updates to the firm at large. The ESG Working group combines external facing client group members collaborating with the ESG investment team to focus on marketplace feedback, messaging, marketing materials, and content priorities.

Acadian's Director of Responsible Investing, Andy Moniz (Acadian Asset Management (UK) Limited), oversees the firm's Responsible Investing (RI) policy. The primary objective of the policy is to integrate material ESG considerations into the investment process, with the goal of enhancing investment returns, mitigating potential risks, and ultimately delivering better outcomes for Acadian's clients. A further objective of the policy is to develop customized solutions to meet clients' ESG needs. Ultimate authority and accountability lie with Acadian's Chief Investment Officer.

## Responsible Investing Team

Experts focused on ESG specific data, alpha research, portfolio construction, machine learning, climate analytics, and engagement.



### Andy Moniz, Ph.D., CFA\* | Senior Vice President, Director, Responsible Investing

Industry experience: 23 years | ESG experience: 12 years | Focus: Data science, engagement



### Matt Picone, CFA\*\* | ESG Portfolio Manager

Industry experience: 19 years  
ESG experience: 12 years  
Focus: Portfolio construction, engagement



### Devin Nial | ESG Portfolio Manager

Industry experience: 18 years  
ESG experience: 3 years  
Focus: Alpha research, machine learning



### Jerry Yu, Ph.D. | ESG Analyst

Industry experience: 3 years  
ESG experience: 2 years  
Focus: Climate analytics, engagement



### Chris Hayes\*§ | ESG Product Strategist

Industry experience: 16 years  
ESG experience: 8 years  
Focus: Product development, alternative ESG data

\* - Based in Acadian's London Office, \*\* - Based in Acadian's Sydney Office, § - Member of Acadian's Product Strategy Team

## II. STRATEGY

### 1. Background on Acadian's Investment Approach

Acadian's investment process is founded on the principle that market inefficiencies are caused by behaviorally-based mispricings, information asymmetry, and market frictions. Our investment process seeks to systematically exploit these inefficiencies by leveraging data and technology to apply our fundamental and market insights:

- Markets are inefficient because many investors act irrationally and with incomplete information.
- Markets are adaptive, which changes the relationships between risk and reward through time.
- Investors have "mental models" that neglect relevant information and changing dynamics and thus perpetuate these market inefficiencies.

We believe that alpha is best generated by:

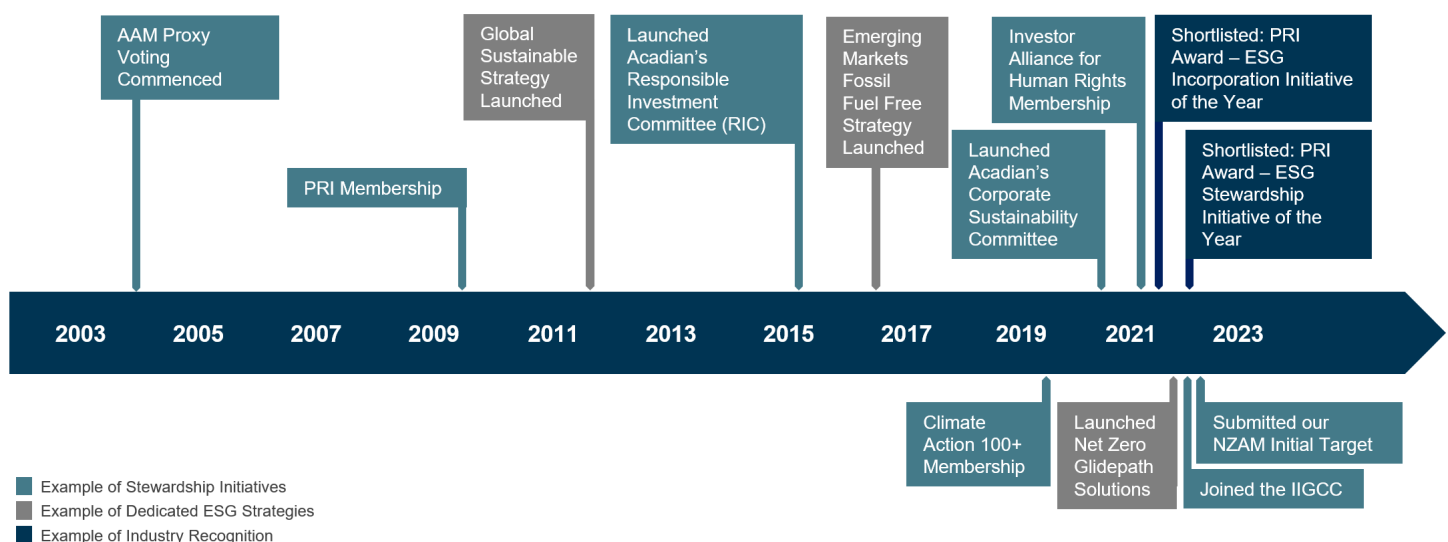
- Applying information and technology in a disciplined and systematic investment process.
- Knowing the value of different information at different points in time.
- Recognizing that a robust research culture is essential to achieving enduring, superior risk-adjusted client returns.

Acadian integrates proprietary ESG signals across its investment process for the sole purpose of enhancing the prediction of risk-adjusted returns. We evaluate sustainability considerations both as return seeking and risk mitigating factors with the goal of improving clients' investment outcomes. Unlike generic ESG ratings, which are designed to serve a multitude of purposes, Acadian ESG signals seek to isolate specific information that the market is not already correctly pricing. The underlying relationships between ESG characteristics and future returns are often complex, calling for advanced analytical approaches, including machine learning. We set a high hurdle of statistical significance to evaluate signals, and we do not compromise on efficacy. We only add signals if we find that they show strong evidence of their ability to potentially enhance the prediction of returns. This applies equally to ESG signals too.

Many of our clients ask us to further integrate their values-based sustainability views into portfolios. Consequently, much of our work involves partnering with clients to meet their specific needs. We note that if an ESG consideration is deemed to be a source of alpha, then it would be integrated into our investment process. This means that clients' values-based views that go beyond the level of ESG integration within our alpha model require an evaluation of the trade-off between ESG exposure vs. alpha exposure.

The flow chart below shows the evolution of Acadian's Responsible Investing approach over the last twenty years.

Figure 1: Timeline of Acadian's Responsible Investing Approach



Researchers are committed to identifying novel datasets, including sustainability metrics, and assessing their efficacy from an alpha perspective, while portfolio managers are responsible for understanding, measuring, and monitoring the ESG-related exposures in portfolios. Insights are discussed at portfolio management team meetings, and Investment Policy Committee meetings chaired by the CIO. Additionally, Acadian is an advocate of research-driven thought leadership and writes frequently on Responsible Investing related topics. These insights are shared with clients and are also presented internally. Other important Responsible Investing activities at Acadian include product strategy, client communications, and company engagement.

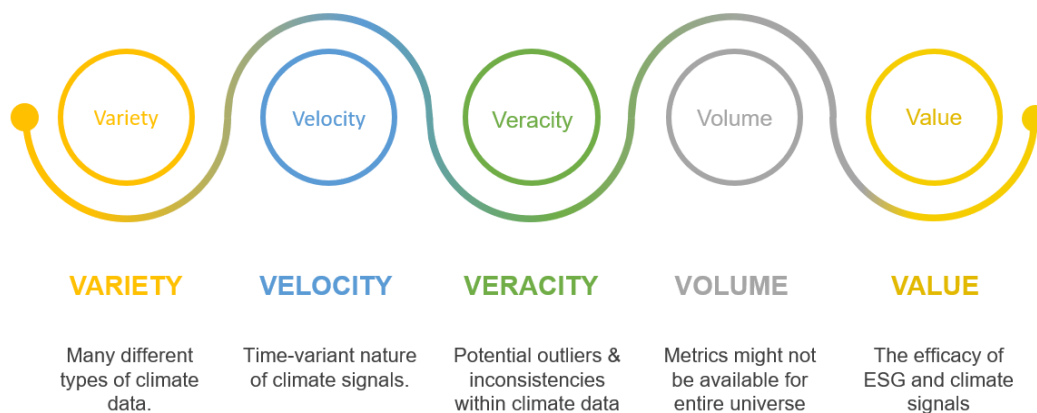
## 2. ESG Signals and Climate Data

ESG analysis can pose significant challenges due to its sprawling scope, lack of consistent definitions, and subjective elements. Acadian's systematic approach provides breadth, clarity, and objectivity in both extraction of alpha from ESG concepts, and the alignment of investments with the clients' values and goals.

The starting point for all analysis is data. Climate-related data serves as one input to the construction of Acadian's forecasting models, which incorporate a wide array of information to create predictive signals. The models are used to forecast returns for a global investment universe of more than 40,000 securities. In addition to integrating company fundamental data, we make use of a broad range of alternative data, which we find highly relevant in an ESG context. Examples include company documents, news, and social media, and other unstructured sources that can offer insight into companies' ESG characteristics.

Our analysis of climate data is characterized by the 5 'Vs', namely Variety, Velocity, Veracity, Volume, and Value:

Figure 2: Characteristics of Climate Data



**VARIETY** refers to the type of climate data. Given the increasing availability of alternative data, Acadian actively scouts for datasets (containing both structured and unstructured data) and employs data science techniques to help quantify the potential impacts of climate change.

Examples of structured data include:

**Carbon emissions data** – We source Scope 1 and 2 carbon emissions data from MSCI for the purpose of measuring the active carbon exposures of portfolios. Due to Acadian's large investment universe beyond MSCI's coverage, we further employ a proprietary model to impute missing emissions and intensity data.

**Carbon management data** – Our dedicated sustainability strategies integrate forward looking data to assess which companies appear best-in-class with regards to their management of carbon emissions.

**Product-based revenue exposure** – Our dedicated sustainability strategies apply a selective divestment approach that excludes companies that are either unwilling or unable to transition to a low carbon economy. This includes identifying the percentage of revenue that companies derive from thermal coal, conventional and unconventional gas.

Examples of unstructured data include:

**Text** – We integrate disclosures from corporate sustainability reports, regulatory filings, earnings call transcripts, shareholder proposals, corporate press releases, and news media sources. One example is the ability to identify companies' discussions around their decarbonization strategies and alignment to the TCFD pillars and science-based framework.

**VELOCITY** refers to the time-varying nature of climate signals. Acadian's carbon valuation adjustment model, for example, adjusts for regional differences in valuation multiples based upon investors' perceptions of carbon pricing that may impact high/low carbon emitters. This adjustment is market-derived and dynamic in nature.

**VERACITY** refers to the provenance of the data. Acadian monitors data feeds and proprietary calculations for exceptions using automated rules, filters, and exception reports that prevent suspect data from flowing downstream into the investment process. Our data team utilizes analytical techniques to identify outliers and work with data providers to resolve issues.



**VOLUME** refers to the amount of data relative to our investable universe. This is particularly an issue given that ESG data is reported on a voluntary basis by companies. Acadian has developed a proprietary methodology to impute missing Scope 1 and 2 emissions.

**VALUE** refers to the efficacy of ESG signals. We set a high hurdle rate to evaluate the robustness of signals across sectors and regions, and pervasiveness over time. We integrate signals based on empirical evidence of return-predictability and accretion to our investment process.

### 3.1 Solutions: Exclusions

Our core investment process maintains a broad investment universe combined with a targeted stewardship program. For our sustainable strategies, however, we implement certain exclusions. Examples include identifying companies that are unable or unwilling to transition to a low carbon economy, companies that are in violation of international protocols, or other cases where there is a strong investor preference for exclusion. The following exclusions apply to Acadian Sustainability strategies. Climate related exclusions are highlighted in Figure 3 below.

**Figure 3: Acadian’s Exclusion Criteria for Sustainable Strategies**

Exclusion Criteria	Description
Tobacco	Manufacturers of tobacco products
Controversial Weapons	Cluster munitions, anti-personnel landmines, biochemical weapons and nuclear weapon systems
Norms Based Screening	UN Global Compact violators and EU Sanctions List
Thermal Coal	>5% revenue* from thermal coal extraction
Unconventional Oil & Gas	>5% revenue* from unconventional oil & gas extraction
Conventional Oil & Gas	>10% revenue* from conventional oil and gas extraction, and
	>60% of fossil fuel reserves in oil, and
	Worst-in-class carbon emission scores**
Electric Generators	>10% of power generation from thermal coal, or
	>30% of power generation from other fossil fuels, or
	>30% of power generation from nuclear sources, and
	Worst-in-class carbon emissions scores*

\* As deemed by a third party provider

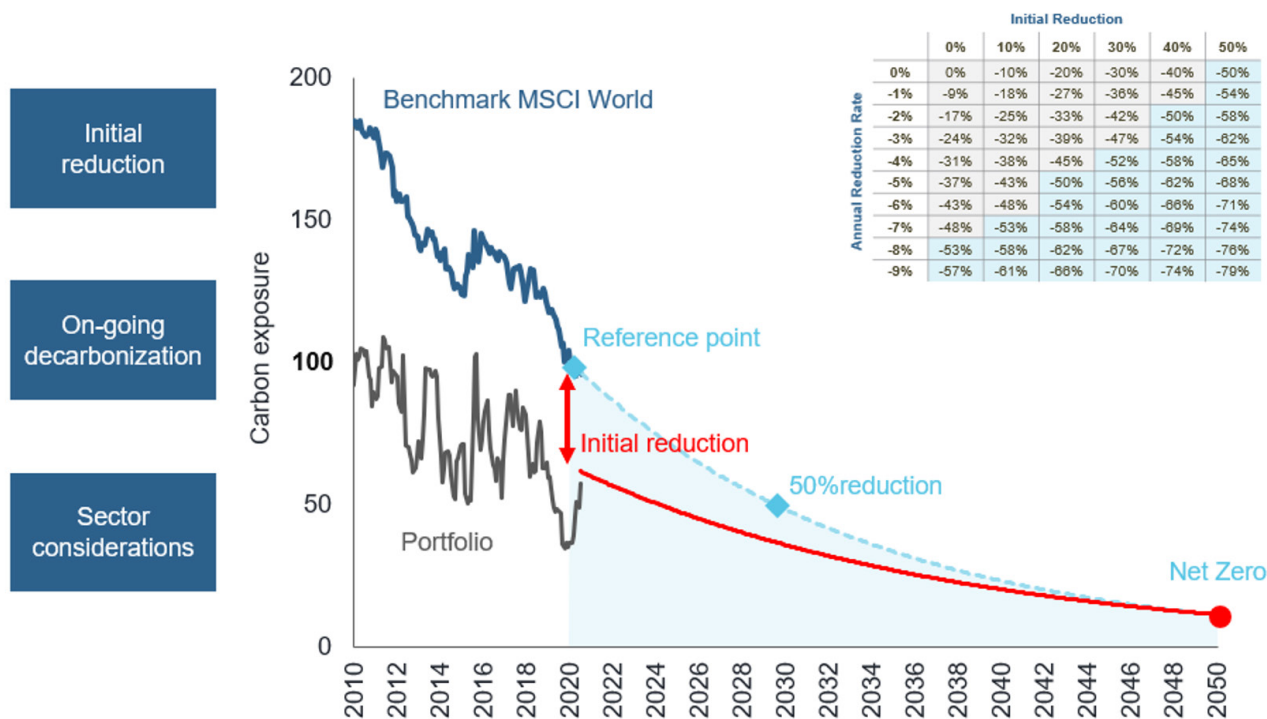
\*\* Considers a company’s carbon emissions performance along with forward-looking measures including emission reduction targets and actions being taken to meet these targets.

We believe one of the key benefits of Acadian’s investment management services is the very sizeable universe of securities we consider in our process, enabling us to identify a large number of attractively ranked companies even after the application of ESG screens. Using our optimization techniques, we believe we can therefore implement exclusions with minimal impact on the risk and return profile of our sustainability funds.

### 3.2 Solutions: Portfolio Decarbonization

Acadian’s dedicated sustainability strategies further integrate constraints in portfolio construction to ensure a maximum upper bound to portfolio-level carbon exposure. Our Net Zero glidepath solution is illustrated in Figure 4 which plots the carbon exposure for a hypothetical portfolio. We measure carbon exposure is using a combination of weighted Scope 1 & 2 absolute emissions, WACI - Weighted Average Carbon Intensity, and Carbon Footprint. WACI is defined as weighted average carbon intensity calculated as metric tons of Carbon Emissions divided by the company’s revenue (USD). The carbon exposure is indexed so that the exposure for the benchmark as at December 2020 is equal to 100. This is our reference point for setting an absolute decarbonization constraint.

Figure 4: Illustrative Example of Acadian’s Net Zero Glide Path Solution



Source: Acadian Asset Management LLC, IEA. Acadian based on Carbon Data from MSCI. Carbon emissions are estimated by Acadian where coverage from MSCI is missing. The information provided is for illustrative purposes only based on proprietary models. There can be no assurance that the forecasts will be achieved. Index source: MSCI Copyright MSCI 2023. All Rights Reserved. Unpublished. PROPRIETARY TO MSCI.

The Paris Agreement advocates the need for the world to decarbonize by 50% between 2020 and 2030. From an investment perspective, this implies that the benchmark’s carbon exposure needs to follow the path as indicated by the blue dotted line. Consequently, any portfolio within the blue shaded area is potentially aligned with a Net Zero pathway.

The choice determining where a portfolio should lie is determined by two parameters:

- 1) a portfolio may apply an up-front reduction in portfolio carbon exposure relative a reference point (e.g. the benchmark’s 2020 level), and
  - 2) a percentage decarbonization rate that over subsequent years defines a smooth upper bound to the portfolio’s carbon exposure.
- The parameters are illustrated by the red lines in Figure 4. The rates applied in Acadian’s dedicated sustainability strategies are shown in the table below:

Figure 5: Acadian’s Baseline Net Zero Decarbonization Glide Paths

Actions	Climate science recommendation	Carbon Reduction*	
		Developed Markets	Emerging Markets
Upfront Reduction	IPCC UN Emissions GAP Report	20% vs. benchmark**	10% vs. benchmark**
On-going Decarbonization		7% per annum	4% per annum
Sector Considerations		Additional targeted decarbonizations in Energy, Materials and Utilities sectors	

\*Using Weighted Average Carbon Intensity (WACI) based on scope 1 and 2.

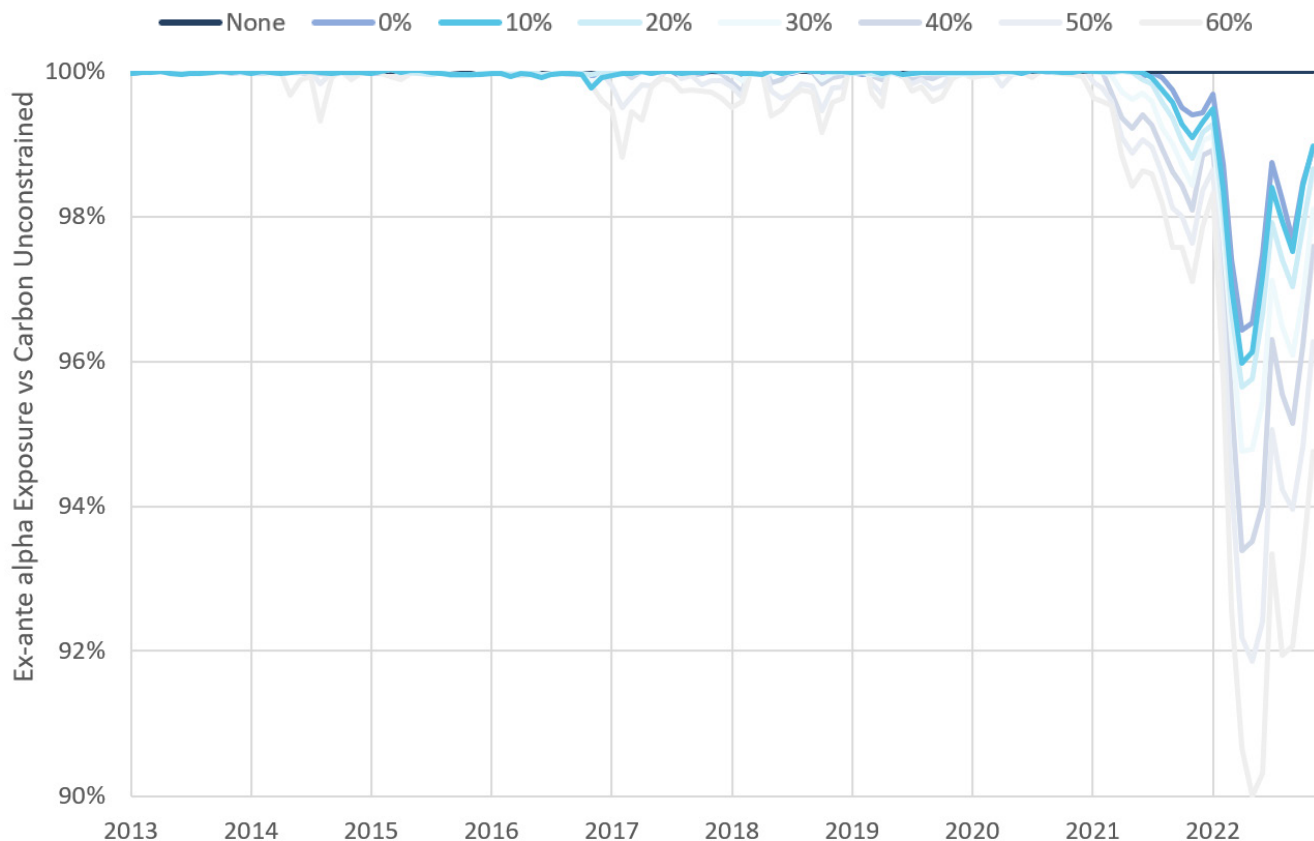
\*\* vs. 2020 baseline



To complete the glide path specification, we add an additional control to regulate how the portfolio-level target is achieved. We impose a portfolio-level WACI constraint on each of the three most carbon-intensive sectors -- Energy, Materials, and Utilities. Doing so enforces some balance in terms of how the portfolio construction mechanism sources portfolio WACI reductions with the aim of selecting more carbon-efficient companies from within these sectors. We see this control as consistent with most investors' decarbonization objectives, and it reduces "concentration risk" in generating portfolio emissions reductions.

To evaluate the impact of integrating a Net Zero glide path, we conducted a simulation analysis to evaluate the impact on the ex-ante alpha exposure. As Figure 6 shows, even in conditions that favor emitters such as 2022, sophisticated systematic carbon-constrained strategies can still retain substantial alpha exposure. Adding a carbon exposure constraint to a simulated baseline global portfolio reduced ex-ante alpha exposure by less than 10% during 2022. Moreover, in less extreme market environments such as in 2021, the drop-off in alpha exposure was negligible.

**Figure 6 : Hypothetical Ex-ante Alpha Exposure with Increasing Carbon Intensity Reductions**



Source: Acadian. Charts reflect hypothetical portfolios based on Acadian Global long only strategy benchmarked to the MSCI World Index from 2013 to 2022. Initial AUM of USD1bn with \$100mn market cap minimum. Carbon constrained portfolios employ a benchmark relative WACI constraint from 0-60% reduction. This is meant to be an educational illustrative example and is not intended to represent investment returns generated by an actual portfolio. Reference to the benchmark is for comparative purposes only. Hypothetical results are not indicative of actual future results. Every investment program has the opportunity for loss as well as profit. Index and Carbon Data source: MSCI Copyright MSCI 2023. All Rights Reserved. Unpublished. PROPRIETARY TO MSCI. Carbon emissions are estimated by Acadian where coverage from MSCI is missing. Please see: <https://www.acadian-asset.com/investment-insights/esg/quick-take-must-decarbonization-bite-when-emitters-outperform> for further details.

### 3.3. Solutions: Climate Opportunities

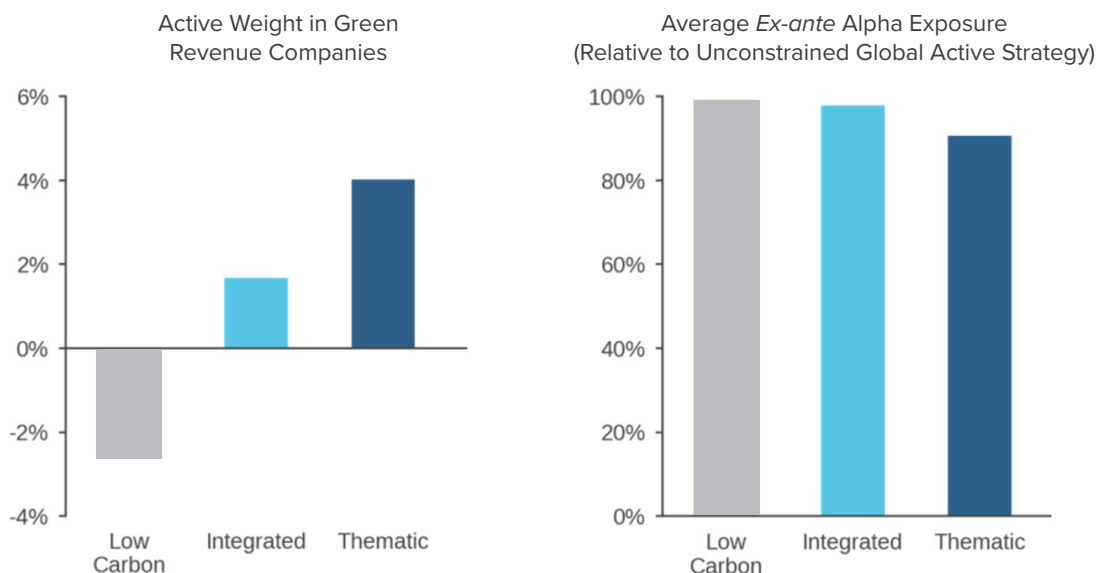
The transition to the low carbon economy has the potential to become one of the largest secular shifts in recent history. From an investment perspective, the primary beneficiaries of the transition include companies that foster the development and deployment of clean technologies. Second-order effects may be felt both by the suppliers of raw materials and component parts for these technologies as well as the consumers that use the technologies, while tertiary effects of the innovation spillovers may ripple through parts of life in ways that are yet to be imagined.

During the course of 2022, Acadian conducted research to evaluate how investors may harness Natural Language Processing (NLP) techniques to construct portfolio tilts capturing investment opportunities associated with the energy transition. Our signal known as Green Economy Opportunities, or GEO for short, mines company disclosures to identify products, services, and corporate strategies related to the transition. Our goal is to offer bespoke climate solutions to clients seeking to positively tilt towards this theme.

To evaluate different design choices, we conducted a monthly rebalanced simulation analysis between 2016-2022, assuming a starting value of US\$1bn. We began by taking Acadian's Global Equity strategy as a base case and applying standard sustainability criteria. We call this the Low Carbon strategy. The hypothetical portfolios seek to maximize risk-adjusted returns using Acadian's multi-factor investment and portfolio construction process whilst ensuring that the specified minimum GEO exposure (if any) is met at each level.

In the simulation in Figure 7, the Low Carbon strategy baseline exhibited lower exposure to green revenue companies than the MSCI World Index, despite its otherwise climate-favorable construction. By contrast, the GEO-tilted strategies delivered positive active exposure to green revenue companies with negligible impact on ex-ante alpha exposure. We are able to offer GEO-tilted strategies to clients upon request.

**Figure 7: Key Environmental Characteristics and Financial Results—Hypothetical Strategies**



Charts represent average performance of hypothetical portfolios based on long-only strategies benchmarked to the MSCI World Index from January 2016 – August 2022. Key assumptions include USD1BN starting AUM, monthly rebalancing, and others noted in the text. Green revenue companies are those with more than 10% of their revenue from green opportunities. Please contact us for further details about portfolio construction. Sources: Acadian using green revenue data from MSCI. This is meant to be an educational illustrative example and is not intended to represent investment returns of an actual portfolio. Results do not represent actual trading or an actual account. They do not reflect transaction costs, other implementation costs, and advisory fees or their potential impact. Hypothetical results are not indicative of actual future results. Reference to the benchmark is for comparative purposes only and is not intended to indicate that the simulated portfolio contained or will contain the same investments or weights as the benchmark. Every investment program has the opportunity for loss as well as profit. MSCI data copyright MSCI 2023. All rights reserved. Unpublished. PROPRIETARY TO MSCI. For illustrative purposes only. Please see: <https://www.acadian-asset.com/investment-insights/esg/a-machine-learning-based-approach-to-thematic-esg-investing> for further details.

### 4. Stewardship

Acadian may seek dialogue with the companies that we have invested in on behalf of clients with the aim of improving those firms' performance and risk-adjusted investment returns. We believe that the scalable and sophisticated tools we use for investing are equally valuable in identifying and prioritising engagement candidates. Targeted dialogues on ESG themes with the companies we own to better understand how they address financially material ESG-related deficiencies reduce ESG-related risks and, in turn, improve the investment outlook.

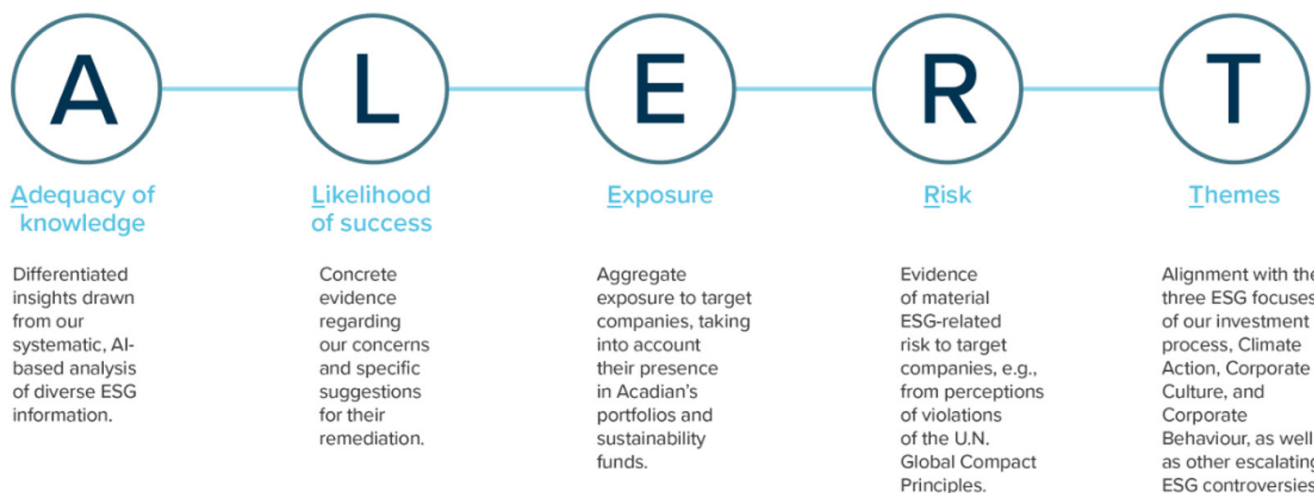
## 4.1 Engagements

The objective of Acadian’s engagement strategy is to act in the interests of our clients by communicating best practices and improving corporate practices. Our efforts focus on direct company engagements aligned with ESG topics that are integrated into our investment process as signals - climate action, corporate culture and corporate behaviour - these signals are implemented for the purpose of enhancing risk-adjusted returns:

- **Climate Action** — We assess company disclosures on climate change risks, informed by Task Force on Climate-Related Financial Disclosures (TCFD), and board-level oversight of climate risk and overall climate strategy. Guided by the Science Based Targets initiative (SBTi), we encourage adoption of company-wide emissions reduction goals, with commitments to short, medium, and long-term targets. These steps cover metrics included in our carbon adjustment of intrinsic value factor.
- **Corporate Culture** — We assess company compliance with the U.N.’s Guiding Principles on Business and Human Rights. We advocate for adherence to International Labour Standards for procurement, implementation of controls to prevent modern slavery throughout supply chains, and monitoring of subcontractors with respect to labour rights and health and safety.
- **Corporate Behaviour** — We focus on shareholder rights, which we view as critical to companies’ long-term success. Those efforts focus on promotion of management transparency, board independence, and management responsiveness to financially material stakeholder concerns.

In keeping with the spirit of our broader investment process, we apply a systematic framework to engagement selection based upon the following criteria:

**Figure 8: Engagement Criteria**



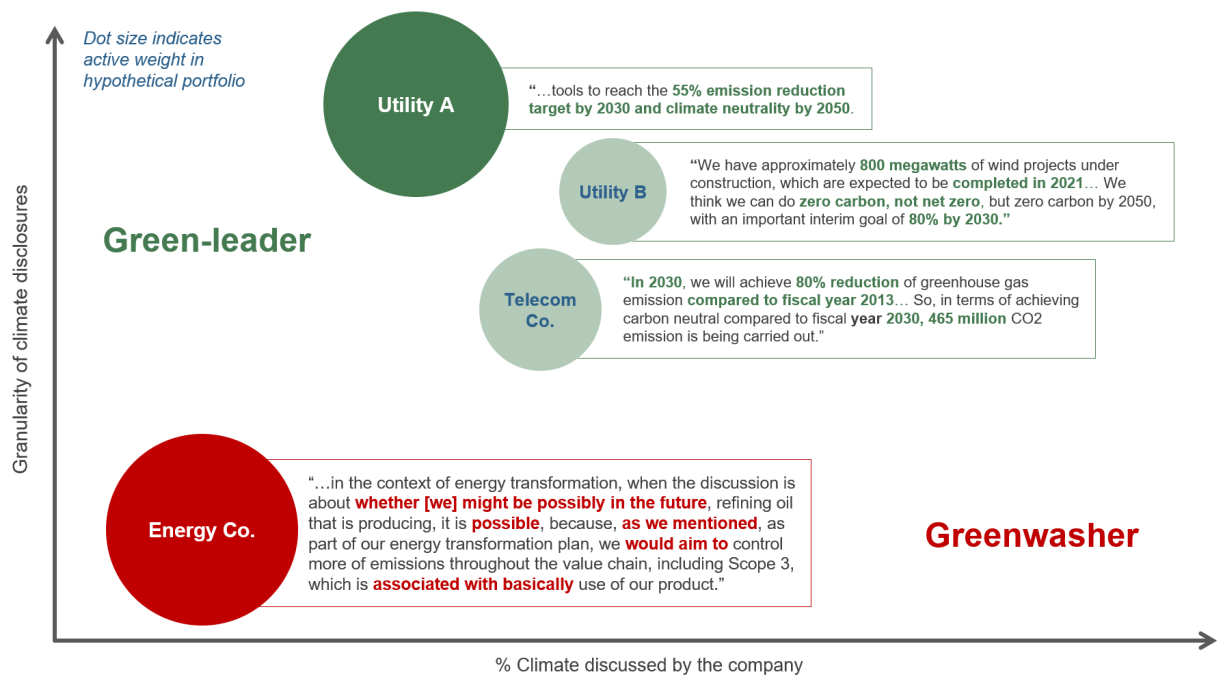
One key decision criterion to the choice of engagement targets is financial exposure. Consistent with our fiduciary duties, we focus on companies where we have an overweight position, a condition under which our investors are likely to benefit the most from improvement in ESG-related corporate behaviours and characteristics. Another important factor is the quality of the evidence that we can bring to bear. We expect that companies will be more receptive to dialogue and remediation if we can provide them with targeted insights regarding our ESG concerns.

In searching for potential engagement candidates, we apply state-of-the-art AI methods to produce data-driven findings that more rudimentary screening methods would likely miss. One such example is the development of a proprietary AI-based tool named “ENGAGER” that seeks to detect greenwashers. The tool works by processing and analysing companies’ communications including their sustainability reports, earnings call transcripts, Annual General Meeting statements, and regulatory filings. The tool evaluates the directness and precision of companies’ sustainability communications, and the consistency of their actions and words.

We prioritise suspected greenwashers for engagement on the basis that such companies are unlikely to remediate ESG-related deficiencies and risks without being prompted to do so. By systematizing the search for greenwashers, ENGAGER allows us to screen large numbers of holdings to identify the most appealing targets for engagement with respect to decarbonisation and other ESG themes. Figure 9 illustrates a subset of the information that the system provides.



Figure 9: ENGAGER—A Stylized Illustration



Source: Acadian. For illustrative purposes only. Please see <https://www.acadian-asset.com/investment-insights/esg/esg-engagement-by-the-numbers> for further details.

## 4.2 Third Party Initiatives

We are selective when associating with third party and collaborative initiatives, focusing on those that relate to issues that we find are financially material and are integrated in our investment process, relate to data and transparency, or represent issues that are important to our clients. We participate in these initiatives to share knowledge on best practices, gain greater understanding of emerging themes and to compare perspectives with like-minded investors.

Figure 10: Selected Third Party Initiatives

CLIMATE ACTION		
Climate Action 100+	2019	The initiative aligns with our focus on disclosure of material ESG issues such as climate change and carbon emissions, and further support for the TCFD.
Institutional Investors Group on Climate Change (IIGCC)	2022	European body that supports investment community in meeting 2030 net zero-aligned objectives.
Net Zero Asset Manager's Initiative	2021	Asset managers committed to supporting the goal of net zero emissions by 2050 or sooner, in line with global efforts to limit warming to 1.5°C.
Task Force on Climate-related Financial Disclosures (TCFD)	2021	Aims to address the financial impact of climate change by increasing transparency on climate-related risks and promoting better informed financial decision-making.
CORPORATE CULTURE		
Investor Alliance for Human Rights	2021	The organization seeks to further the responsibility for businesses to respect human rights using the UN Guiding Principles for Business and Human Rights framework.
Investors Against Slavery & Trafficking	2021	Promotes effective action among investee companies in the APAC region to find, fix and prevent modern slavery, labour exploitation and human trafficking in their value chains.
CORPORATE BEHAVIOUR		
ESG Research Australia	2019	Membership through Responsible Investment Association Australasia (RIAA) which aims to increase the quality and quantity of ESG stockbroker research.
ESGaction Council	2018	Promotes best practices and open standards for ESG, sustainable, and impact investing related disclosures, evaluation, research, benchmarking and risk management.
Investment Advisors Association ESG Committee	2021	Collaboration with industry members on sustainability and ESG-related policy, regulatory, and compliance issues primarily in the U.S.
Pensions for Purpose	2019	Bridge between pension funds, professional advisers, and asset managers who are dedicated to the involvement with impact and ESG investment.
Principles for Responsible Investing (PRI)	2009	Provides guidance on material ESG issues, best practices and opportunities for collaboration. Acadian participates in PRI-led initiatives, including collaborative engagement efforts, and is a member of the PRI Australian Advisory Committee.
Standards Board for Alternative Investments (SBAI)	2020	Brings together managers and investors to develop practical solutions for the implementation of ESG in the context of alternative investments.

Source: Acadian. Please see <https://www.acadian-asset.com/investment-insights/esg/esg-engagement-by-the-numbers> for further details.

From time to time, we may also interact with policy makers and regulators by providing views on ways to improve the quality of corporate disclosures. One example in 2022 included providing feedback to the SEC on the integration of climate risk disclosures into 10-K/Q filings with the goal of fostering greater investment insights. Our collaborative engagements and interactions with policy makers are aligned with themes and signals that are integrated into our investment process and, in turn, these signals and themes have been integrated for the sole purpose of enhancing risk-adjusted returns.

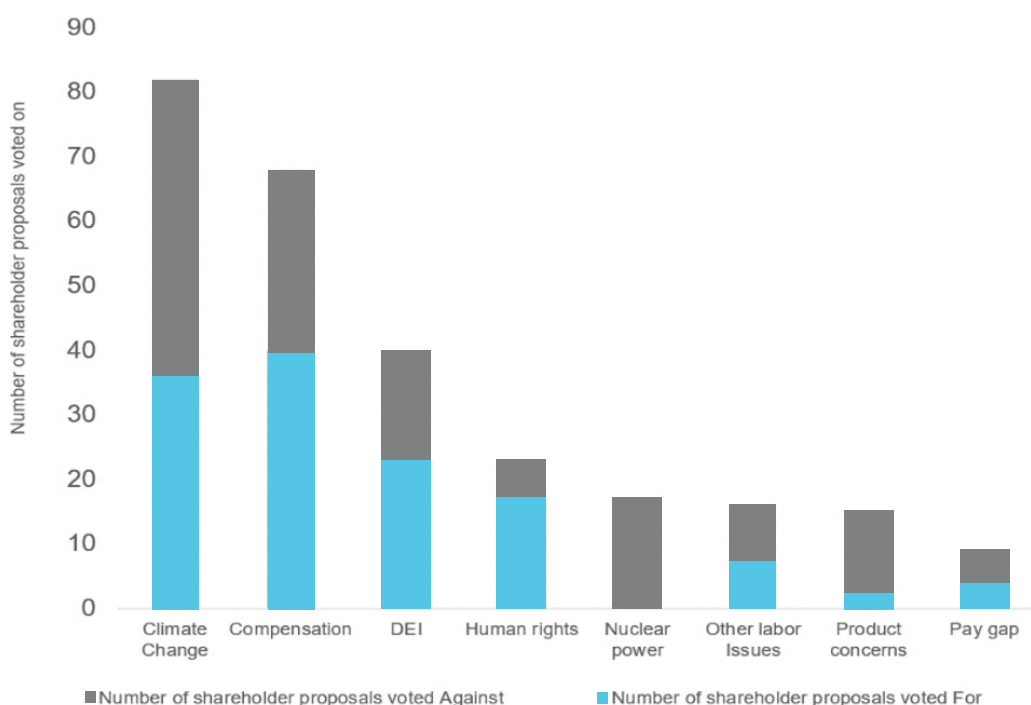
### 4.3 Proxy Voting on Climate Issues

We view the proxy voting process as an opportunity to encourage continual improvement and ensure that our clients’ interests are represented and protected. Our proxy voting is delegated to ISS who, in the majority of cases, conduct the votes in accordance with their standard policies. For separately managed accounts Acadian clients can also request specific or custom policies. At the outset of each investment relationship with a client, the client has three options to choose from in connection with how its shares are voted on resolutions. Firstly, a client may independently select to retain full voting discretion to itself cast votes for its portion of shares. Secondly, a client may independently choose to have Acadian vote its shares consistent with Acadian’s disclosed policy, which makes clear that Acadian delegates voting to Institutional Shareholder Services (“ISS”) and those votes are cast by ISS in accordance with its benchmark voting policy which focuses on enhancing shareholder value. Thirdly, a client may provide Acadian with its own customized proxy voting policy (which Acadian then provides to ISS to apply) or instructs Acadian to have ISS apply another one of its policies, such as its sustainability proxy voting policy. Thus, as a matter of Firm policy, each client directs Acadian on how they wish its shares to be voted.

We follow client instructions when voting on significant greenhouse gas emitters. Clients can instruct us to vote for or against management in these scenarios. If a client has delegated voting to us and not stated a preference the ISS benchmark voting policy will be used. This policy has the potential to vote against or withhold from the incumbent chair of the responsible committee (or other directors on a case-by-case basis) in cases where it is determined that the company is not taking the minimum steps needed to understand, assess, and mitigate risks related to climate change. The minimum criteria required to be in compliance include detailed disclosure of climate-related risks according to the TCFD framework.

Similarly, we follow client instructions when voting on climate transition proposals and clients can instruct us to vote for or against these proposals. If a client has delegated voting to us and not stated a preference the ISS benchmark voting policy will be used. This policy can take into account the completeness of climate transition proposals including disclosure of a company’s operational and supply chain GHG emissions (Scopes 1, 2, and 3), the completeness of a company’s short/medium/long-term emissions targets, whether the company has sought and received third-party approval that its targets are science-based, whether the company has made a commitment to be Net Zero by 2050 and the company’s related commitment, disclosure, and performance compared to its industry peers.

Figure 11: Analysis of Shareholder Proposals Voted on in 2022



# III. RISK MANAGEMENT

## Investment Process Risk Management

Acadian’s research finds that climate risks and opportunities are typically not correctly priced by investors. Examples of how transition and physical risks can materialize for companies include:

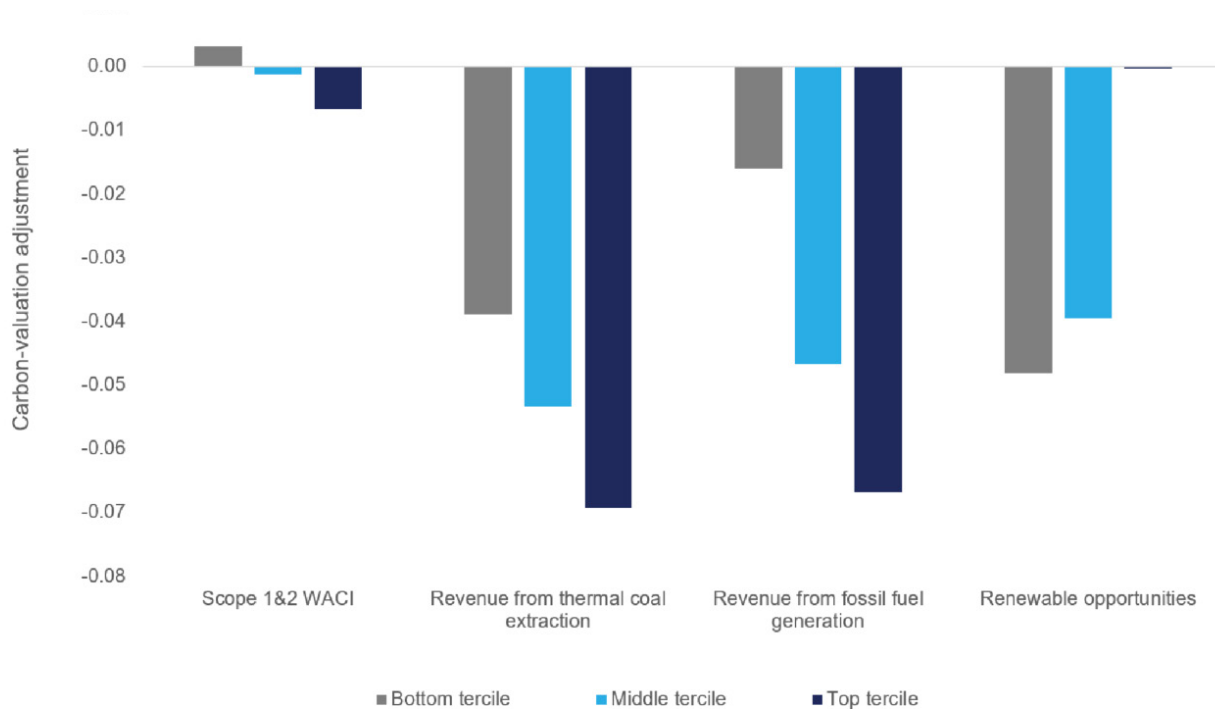
- Direct regulatory costs for companies with carbon-intensive business activities.
- Operational disruptions from extreme weather events that are more unpredictable or impactful.
- Disruptions to upstream and downstream supply chains.
- Stranding of company assets, either due to GHG regulations, rapid technology switching, changing cost structures, or physical risks (chronic and acute).

Following the TCFD framework, we differentiate between Policy and Litigation Risk, Technology Risk, Market Risk and Reputation Risk, as follows:

**Policy and Legal Risk:** includes the government mandating of carbon-pricing mechanisms to reduce GHG emissions. One example of the integration of policy risk considerations within our investment process is the implementation of a carbon valuation adjustment to account for the fact that investors may discount company valuations based on high carbon emissions. The idea behind this adjustment is to avoid buying securities that are cheap for a reason. The adjustment is determined regionally to account for differences in regulations. For example, in Europe the EU Emissions Trading System can increase costs for high carbon emitters while in the US we generally do not yet see widespread regulation increasing costs or investors discounting high carbon emissions. Since our adjustment is market driven, discounts will automatically adjust as markets introduce new regulations or investors begin to penalize outsized carbon emissions more heavily.

Figure 12 illustrates the magnitude of Acadian’s carbon valuation adjustment conditional upon securities’ environmental characteristics. We observe a monotonic relationship – those securities with higher exposure to fossil fuels, thermal coal, and carbon intensity receive a higher valuation discount.

Figure 12: Illustrative Example of Acadian’s Carbon Valuation Adjustment Model





In addition to integrating climate related risks within our core investment process, Acadian has developed a proprietary climate analytics platform that analyzes companies' expected carbon trajectories, their alignment to IPCC socio-economic pathways, together with a sensitivity analysis to the PRI's Inevitable Policy response.

**Technology Risk:** includes technological improvements or innovations that support the transition to a lower-carbon economy. Examples include the development and use of emerging technologies such as renewable energy, energy efficiency, and carbon capture and storage.

One way we are able to capture environmental innovation is through the text analysis of companies' disclosures. Acadian's Green Economy opportunities (GEO) model reads companies' disclosures (including earnings call transcripts, regulatory filings, patents, press releases, and company sustainability reports) to score companies' perceived alignments to the energy transition. Figure 13 provides illustrative examples of sentences for each GICS sector, highlighting the variety of energy transition topics covered and the ability to capture industry specific information. For instance, the words highlighted in dark blue capture companies' discussions of their decarbonization plans, while the words in light blue refer to discussions around renewable energy.

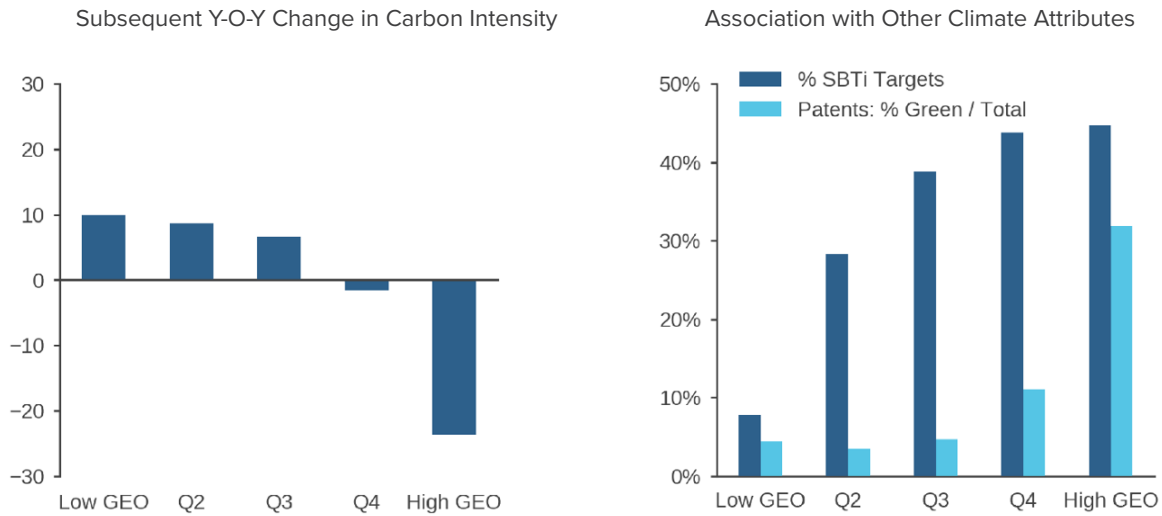
**Figure 13: Illustrative Examples of Sentences from Acadian's GEO Model**



Source Acadian. Please see: <https://www.acadian-asset.com/investment-insights/esg/a-machine-learning-based-approach-to-thematic-esg-investing> for further details.

As the left panel of Figure 14 below shows, GEO scores predict one-year-ahead changes in carbon intensity. Specifically, if we sort securities by the GEO signal, we see a monotonic pattern of subsequent peer-relative declines in carbon intensity. The right panel provides corroborative evidence, showing that companies with the highest GEO scores are more likely to commit to science-based targets or hold a higher proportion of green patents. The demonstrably forward-looking nature of GEO contrasts with conventional climate metrics, such as scope 1 and 2 emissions, which are backwards-looking and often reported with a lag.

**Figure 14: GEO Environmental Characteristics**



Both charts: Data for stocks in a DM + EM equity universe is sorted into quintiles by proprietary GEO score. Left chart: Average one-year forward change in peer-relative (demeaned) carbon intensity 2010-2020. Right chart: Patent data is from MSCI as of April 2022. Sources: Acadian based on data from the Science Based Targets initiative and MSCI. MSCI data copyright MSCI 2023. All rights reserved. Unpublished. PROPRIETARY TO MSCI. For illustrative purposes only. Please see: <https://www.acadian-asset.com/investment-insights/esg/a-machine-learning-based-approach-to-thematic-esg-investing> for further details.

**Market and Reputational Risk:** include changing investor, customer, and societal perceptions associated with a company’s transition towards the low carbon economy. One way our investment process captures such risks is through the text analysis of NGO and media news.

We identify nodes representing different aspects of ESG concerns that were discussed in climate-related media reports. The links between the nodes map out interdependencies across the topics as inferred from the analysis. Each node is gauged in terms of the media’s perception of the severity of risk associated with that facet of the topic. We apply this “unsupervised” machine learning technique to systematically identify escalating ESG risks within portfolios.

## Enterprise Risk Management

As a firm, Acadian takes a robust approach to enterprise risk management, including climate risk. We regularly assess risks to the firm and mitigation tactics. The following is an abridged extract from our firmwide risk matrix, showing the sections focused on climate risk.

**Figure 15: Climate Related Enterprise Risks**

RISK	RISK DESCRIPTION	CONTROL DESCRIPTION
<b>Climate-Related Market Risk</b>	Climate-related risks could impact Acadian's AUM and reduce investment management revenue. Client preferences and/or new regulation to which our clients are subject could change demand for certain investment products offered by Acadian.	Acadian has a Responsible Investing Team including Acadian's CEO, CIO, and CCO. Part of this team's responsibilities includes integrating material ESG considerations into the investment process to enhance investment returns and mitigate risks. Our primary goal is to deliver better outcomes for Acadian's clients. A further objective is to develop customized solutions to meet clients' ESG needs.
<b>Climate-Related Reputational Risk</b>	Stakeholder concern and/or associated activism related to the impact of Acadian's client portfolio holdings on the climate could create reputational risk, and/or reduce client and employee loyalty.	Acadian takes a holistic approach to ESG meaning that insights are discussed and integrated across the firm. Researchers conduct ESG related alpha research, PMs are involved in understanding, measuring and monitoring ESG related exposures in portfolios. Our ESG approach is to act in the interests of our clients and we integrate ESG signals for the sole purpose of enhancing risk-adjusted returns.
<b>Climate-Related Regulatory Risk</b>	New environmental and sustainability-related disclosure requirements, or regulations or taxes that apply to Acadian's investment products or other aspects of Acadian's operations could increase costs or make Acadian's products less desirable to clients.	The Compliance team monitors regulatory requirements, and ensures appropriate procedures are in place to meet Acadian's obligations. The Executive Committee and the Compliance and Risk Committee both approve the Compliance manual, which contains all compliance policies and procedures.
<b>Climate-Related Physical Risk</b>	Increased severity of climate-related events could affect our operations, to the extent such events impact our office locations and operations.	Acadian has established business continuity and disaster recovery programs to facilitate the continuity of business in the event of a business disruption, including those related to physical climate risks.



## IV. METRICS & TARGETS

### Investment Process

Researchers and portfolio managers at Acadian examine ESG risk and return information as part of their daily roles. ESG metrics are available for all client portfolios. Portfolio managers have extensive knowledge on each of the factors in the alpha model, including ESG factors. Portfolio managers also utilize a series of investment tools to analyze the ESG characteristics of portfolios. This includes the provision of a stock forecast page that decomposes the ex-ante proportion of a company's return forecast that is driven by ESG signals. These tools also enable portfolio managers to run Brinson attributions of portfolios to explain the contribution of ESG signals on an ex-post basis. An example is shown below.

Figure 16: Sample Report - Carbon Charts

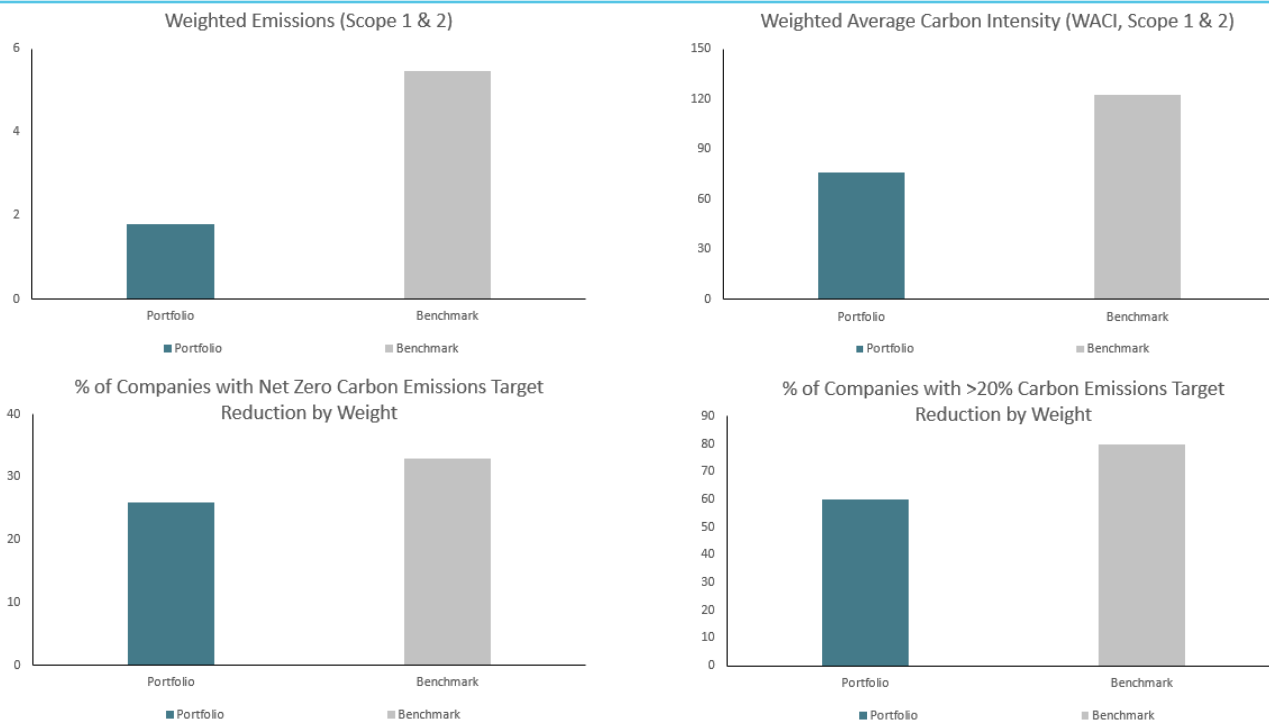


Figure 17: Sample Report - Carbon Table

Carbon Metrics	Portfolio	Benchmark
Total Carbon Emissions (tCO <sub>2</sub> e)	8,758.20	11,710.32
Carbon Footprint (tCO <sub>2</sub> e / \$M Invested)	51.15	68.39
Carbon Intensity (tCO <sub>2</sub> e / \$M Revenue)	62.49	147.9
Fossil Fuel Ownership	2.56%	6.62%
Coal Ownership	0.18%	2.30%
Unconventional Oil & Gas Ownership	1.75%	4.18%
Thermal Coal Mining Revenue %	0.00%	0.85%
Oil & Gas Revenue %	4.71%	10.66%
Oil & Gas Extraction Revenue %	2.31%	4.62%
Thermal Coal Generation %	0.12%	2.65%
Oil & Gas Generation %	0.30%	4.33%

<sup>1</sup> <https://www.netzeroassetmanagers.org/signatories/acadian-asset-management/>

<sup>2</sup> This AUM figure includes Acadian's Article 8 UCITS funds but does not include any dedicated sustainability segregated mandates

## Client Reporting

Responsible investing reporting is available to clients and includes ESG portfolio characteristics reports, proxy voting results, and engagement outcomes. In addition, we offer environmental reporting such as a carbon report which shows total carbon emissions and carbon intensity details / exposures by industry and region at the portfolio level compared to the client's mandated benchmark. An example of this is shown above in Figures 16 and 17. These metrics are built into our internal portfolio management tools allowing us to drill into the drivers of these carbon exposures.

We regularly engage with clients regarding ESG and climate, including through these communication policies and reports:

- **Responsible Investment Policy:** Acadian's Responsible Investment Policy is reviewed annually and posted on our website. It details the organization, governance, dedicated resources, ESG approach, and methodology, and exclusion policies.
- **Voting Policy:** Acadian's Voting Policy is reviewed annually and provided to clients upon request
- **Engagement policy:** Acadian publishes an Engagement Report every year, outlining our continuous dialogue with companies.
- **ESG & Carbon Report:** We have created a series of reports, compiled with a leading UK independent climate consultant, covering sustainability at corporate / group level, with a focus on corporate carbon footprinting.

## Acadian's Corporate Footprint

Acadian has defined a set of corporate carbon objectives as follows:

- Investigate the purchase of carbon offsets and renewable energy certificates for all energy used.
- Support environmental protection volunteering hours.
- Require information from vendors on their sustainability practices as part of the bid/selection process.
- Ensure our preferred catering and cleaning service providers engage in sustainable practices.
- Reduce paper consumption and waste through digitization agenda.
- Reduce firm-wide energy and water utilization.
- Commit to a sustainable travel policy and encourage low-impact commuting through bike storage and public transportation incentives.

To ensure Acadian can track and set targets for carbon emissions, we collaborate with a leading climate consultancy who independently calculated our company carbon footprints (CCFs) across different years in conjunction with a research project to assess firmwide scope 1, 2 and 3 carbon emissions. The consultancy's initial project covered all four Acadian offices (London, Boston, Sydney, and Singapore) between 2019 and 2022. The aim of the project was to explore the carbon emissions associated with each of our offices and commit to reduction. We will continue to track and respond to quantitative information on Acadian's carbon footprint going forward.

Figure 18: Acadian GHG Emissions for 2019, 2020, 2021, 2022

	2019		2020		2021		2022	
	tCO <sub>2</sub> e	%	tCO <sub>2</sub> e	%	tCO <sub>2</sub> e	%	tCO <sub>2</sub> e	%
<b>Scope 1</b>	<b>33.50</b>	<b>0.95</b>	<b>33.50</b>	<b>3.57</b>	<b>33.50</b>	<b>3.87</b>	<b>0.60</b>	<b>0.03</b>
Refrigerant Leakage	33.50	0.95	33.50	3.57	33.50	3.87	0.60	0.03
<b>Scope 2</b>	<b>75.34</b>	<b>2.14</b>	<b>71.66</b>	<b>7.64</b>	<b>75.78</b>	<b>8.75</b>	<b>75.97</b>	<b>3.56</b>
Purchased Electricity (Stationary)	70.10	1.99	65.71	7.01	68.22	7.88	71.05	3.33
Purchased Cooling	0.85	0.02	0.98	0.10	0.66	0.08	1.01	0.05
Purchased Heating	4.39	0.12	4.98	0.53	6.90	0.80	3.92	0.18
<b>Scope 3</b>	<b>3412.10</b>	<b>96.91</b>	<b>756.93</b>	<b>80.72</b>	<b>698.61</b>	<b>80.69</b>	<b>2051.98</b>	<b>96.13</b>
Employee Commuting	841.34	23.90	202.16	21.56	330.30	38.15	202.20	9.47
Home Office	0.00	0.00	155.18	16.55	126.52	14.61	134.75	6.31
Upstream Emissions Electricity	16.17	0.46	15.73	1.68	15.98	1.85	16.27	0.76
Upstream Emissions Cooling	8.78	0.25	10.02	1.07	6.80	0.79	10.33	0.48
Upstream Emissions Heat	0.75	0.02	0.85	0.09	1.18	0.14	0.67	0.03
Business Travel- Flights	2311.11	65.64	300.87	32.09	112.57	13.00	1397.06	65.45
Business Travel- Hotels	68.37	1.94	8.42	0.90	2.89	0.33	28.03	1.31
Rental and Private Vehicles	0.00	0.00	0.00	0.00	0.00	0.00	1.57	0.07
Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.01
Electronic Devices	70.00	1.99	31.48	3.36	68.32	7.89	221.04	10.36
Food And Drink	9.67	0.27	2.76	0.29	5.53	0.64	11.59	0.54
Water	0.77	0.02	0.73	0.08	0.74	0.09	0.36	0.02
Office Paper	19.92	0.57	19.90	2.12	19.91	2.30	19.91	0.93
External Data Centre	57.31	1.63	76.00	8.10	58.00	6.70	6.00	0.28
Operational Waste	7.91	0.22	8.45	0.90	7.82	0.90	7.91	0.37
<b>Overall Results</b>	<b>3520.94</b>	<b>100.00</b>	<b>937.72</b>	<b>100.00</b>	<b>865.84</b>	<b>100.00</b>	<b>2134.55</b>	<b>100.00</b>

Direct and Indirect GHG Emissions (Scopes 1, 2 & 3)

**Find Out More:**

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