MARSHALL WACE

Taskforce on Climate-Related Financial Disclosures (TCFD)

ENTITY REPORT | JUNE 2024

Introduction

This report (the "Report") sets out entity-level disclosures aligned with the **Task Force on Climate-related Financial Disclosures ("TCFD")** for Marshall Wace LLP ("MW" or the "Firm"), in relation to climate-related matters, for the reporting period 1 January 2023 to 29 December 2023 (the "Reporting Period"). Further, per the TCFD guidelines, data from the 2022 reporting period (1 January 2022 to 30 December 2022) is also included.

This Report relates to the relevant assets MW manages as an investment manager providing portfolio management services, and as a fund manager to AIFs. In this Report, the Firm's managed products and services, some of which affiliates primarily manage, are together referred to as "Funds".

In preparing this Report, MW used MSCI Climate Change data and S&P Global Trucost Environmental and Earnings at Risk data. Both are recognized providers of climate-related information and analysis. The Firm prepared this Report on a best-efforts basis. Climate reporting in the asset management industry is still in its infancy, with significant data and methodological challenges, including data quality, asset limitations and timeliness. This Report explains limitations on MW's ability to disclose and includes TCFD-aligned disclosures where MW believes it fair, clear, and not misleading to do so.

This Report includes only equity and equity-related securities, including corporate bonds (the "Covered Assets"), representing 66.5% of MW's long positions and 55.7% of MW's short positions as of 30 December 2023. Covered Assets represented 73.8% of MW's long positions and 68.6% of MW's short positions as of December 2022. Covered Assets are a subset of all MW assets, and the coverage percentages are derived from the ratio of Covered Assets to total MW assets. Not all equity securities and corporate bonds are covered by the MSCI or S&P Trucost data. For certain asset classes (e.g., commodities, sovereign bonds etc.) reporting is impossible due to gaps in underlying data and methodological challenges. With respect to both equity and non-equity related asset classes, certain available information lacks accuracy. Climate data, and the disclosure of carbon metrics for investments in certain non-equity asset classes would be misleading because of operational and methodological challenges.

The Firm is considering how to address these gaps and methodological challenges and will seek to evaluate additional data as it becomes available.

For enquiries, please contact **mwam@mwam.com**.

Compliance Statement

The disclosures in this Report comply with the climate-related disclosure requirements in Chapter 2 of the FCA's ESG Sourcebook.

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Des Anderson, Chief Operating Officer

Marshall Wace LLP

Governance

Marshall Wace ("MW") approaches Sustainable Investing ("SI") and stewardship both strategically, through its principles, organisation, and people, and in practice, through integration into its research, governance and risk management.

MW's Partnership Management Committee ("PMC") has overall responsibility for the management of the business and affairs of MW, the establishment and implementation of the firm's strategy, and the prioritisation and allocation of capital and other resources and product governance. Paul Marshall (Chief Investment Officer) chairs the PMC, which includes Ian Wace (Chief Executive Officer and Chief Risk Officer), the Global Chief Operating Officer, the Global General Counsel, the Chief Executive Officer (North America), and the global heads of various investment teams and the trading team. The PMC meets regularly throughout the year and receives reports from various functions.

The PMC approved MW's Sustainability Risk Policy and related procedures, including MW's sustainability risk appetite and its integration of sustainability risks into investment decisions where applicable.

MW's Operating Committee assists the PMC in the performance of its duties and, in particular, it monitors and reports to the PMC on all operational activities of the firm. The Operating Committee includes regional leaders (Europe, North America and Asia), along with the heads of numerous MW functions.

The Operating Committee reviews high-priority sustainable investing and stewardship objectives periodically, typically annually, with the Head of Sustainable Investing and Stewardship to assess how best to incorporate climate-related issues into the Firm's policies and business development.

The Head of Sustainable Investing and Stewardship updates the Operating Committee on MW's carbon footprint, corporate social responsibility initiatives, systematic integration of Environmental, Social and Governance ("ESG") data scoring into investment tooling, regulatory developments, strategic initiatives related to climate matters, public company engagement and proxy voting.

Several sub-committees of MW's Operating Committee emphasise its commitment to sound corporate governance principles, including a Conflicts of Interest Committee, Cyber Governance Committee, and Operations Control Committee.

A member of each fundamental investment team is appointed as an ESG analyst and meets with the Head of Sustainable Investing and Stewardship. Further, investment teams are provided with ESG data access via MW's proprietary portfolio management system.

Strategy

Impacts of climate-related risks and opportunities

MW offers a broad range of investment strategies with most assets invested in equity long/short strategies characterised by two distinct approaches: **fundamental** investment strategies grounded in stock-specific research and **systematic** strategies. MW endeavours to integrate sustainability principles in both processes.

- MW partners with Glass Lewis to create a customised proxy voting policy based on the TCFD framework for all Funds' proxy voting .
- MW collaborates with industry networks on climate-related items, including UNPRI, CDP, TPI and Climate Action 100+, to identify new data sources, discuss methodologies, risks and opportunities, and remain aware of emerging regulations and trends.
- MW's portfolio management, research, and risk management platform integrates a proprietary ESG analytics system relying on MSCI and Bloomberg for scoring equity securities. These scores can be accessed by all investment teams.
- MW's ESG engagement strategy with companies focuses on environmental priorities, including managing environmental risks and opportunities, reducing carbon emissions and environmental impacts, and increasing ESG and climate related disclosures.
- In 2020, a systematically-driven fund deploying a dedicated ESG strategy focused on environmental factors was launched. The fund scores and filters stocks, leveraging MSCI, TPI, and CDP as data sources. MW previously created a version of its flagship fundamental strategy with a socially responsible investment bias.

Climate risks and opportunities vary by portfolio, asset class, and sector.

- **Long-term** risks and opportunities include regulation and heightened disclosure requirements. These requirements can, for example, expose a company's reliance on fossil fuels, or highlight its transition to renewable energy.
- **Long- to medium-term** risks and opportunities include consumer demand for low emissions products and the energy transition. Businesses offering low carbon products and new energy technologies are poised to benefit, but companies in transition will likely see cost curves impacted.
- **Medium-term** risks and opportunities include impact to a company's reputation, which can result in changes to future earnings, or in negative legal consequences.
- **Short-term risks** and opportunities include, respectively, measures imposed by governments (e.g. tariffs and carbon pricing) and the provision of subsidises and incentives.

MW has a processes to identify and monitor climate-related risks and opportunities integrating customised data from MSCI, Bloomberg, and S&P Global Trucost.

MW studies research in the climate field and analyses investments by region, asset class, and sector to identify different climate-related risks, both of a transition and physical nature that may impact assets under management. Further, MW carries out a materiality analysis using MSCI's data and research to determine impacts of climate-related risks on portfolios.

Risk Management

Identification, assessment and management of climate-related risks.

Identification and Assessment

MW identifies climate-related risks relevant to existing and emerging regulatory risks by liaising with industry bodies, constructively engaging with companies on sustainability and climate policy.

MW's proprietary portfolio management, research and risk platform is available to all of the Firm's investment professionals and integrates external ESG analytics, data from Bloomberg and MSCI and internal proprietary ESG scores based on MSCI scores with a high focus on environmental risks and opportunities. The portfolio management system helps monitor portfolio risks and exposure to ESG factors.

The Environmentally-Focused systematic strategy scores, and filters, stocks leveraging data sources through a proprietary process that may include reference to revenue based criteria and the management of exposure to non-ESG compliant sectors. It focuses on environmental priorities, including climate change, nature-related impacts, biodiversity, water stress, decarbonisation plans and environmental reporting.

The Funds' bespoke proxy voting policy includes an overlay based on the TCFD framework's four pillars of Governance, Strategy, Risk Management, and Metrics/Targets with a focus on environmental risk mitigation, promoting enhanced climate disclosure, and climate-related risk mitigation strategies.

Management

Investment professionals, particularly those on the fundamental teams, can use MW's portfolio management, research, and risk platform to view ESG scores and other security-specific attributes, which can be utilized to manage exposure to certain vectors, including environmental and climate-related risks, to prioritise these risks in their decision-making process, and identify companies exposed to such themes. Portfolio managers have complete discretion on how, and to what extent, they incorporate information, including information related to climate-related risks, in their investment research and decision-making process.

MW's systematic strategies incorporate a variety of signals related to ESG criteria, with models ultimately considering ESG signals among a large variety of others in making investment decisions.

MW tracks the total emissions and emissions intensity of its investments. It also conducts a relevance and materiality assessment annually to ascertain if ESG-related risks are material for fundamental strategies using MSCI data.

Engagement with companies is on-going. It focuses on implementing company-specific objectives, leveraging ESG-related opportunities, setting clear ESG targets, supporting advancement of decarbonisation plans, managing exposure to ESG risks, and improving ESG scores and reporting.

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Climate Scenario Analysis

MW specifically performs exploratory Climate Scenario Analysis using S&P Global Trucosts' climate scenario tools and climate earnings at risk data. The Firm assesses the impact of an increase in the global temperature above pre-industrial levels to well below 2°C or lower in line with the goal of the Paris Agreement. MW measures the financial impact of risks associated with climate change by estimating the present value of a company's earnings at risk under different warming scenarios[1].

Performing Climate Scenario Analysis refines MW's understanding of potential climate-related risks and opportunities, and in no way predicts future outcomes.

MW measures the implied change in EBITDA margins based on different scenarios and years (2025 to 2050) using EBITDA Margin Reduction data. Over the short- and medium-term (2025-2030) the range of estimated margin reductions is lower than the longer term (2040-2050) range and margin reductions are higher in the high carbon scenario compared to the low and medium carbon scenarios:[1]

2023 EBITDA Margin Ranges[2]

	Long Positions in Covered Assets		Short Positions in Covered Assets	
Carbon Scenario	2025-30	2040-50	2025-30	2040-50
Low	-0.14% to -0.28%	-0.45% to -0.52%	0.17% to 0.33%	0.54% to 0.62%
Medium	-0.43% to -0.84%	-1.42% to -2.02%	0.51% to 0.97%	1.62% to 2.29%
High	-0.59% to -1.15%	-1.77% to -2.02%	0.69% to 1.31%	2.02% to 2.29%

2022 EBITDA Margin Ranges[2]

	Long Positions in Covered Assets		Short Positions in Covered Assets	
Carbon Scenario	2025-30	2040-50	2025-30	2040-50
Low	-0.17% to -0.35%	-0.58% to -0.69%	0.12% to 0.25%	0.43% to 0.50%
Medium	-0.56% to -1.10%	-1.88% to -2.70%	0.40% to 0.78%	1.35% to 1.93%
High	-0.77% to -1.51%	-2.36% to -2.70%	0.54% to 1.07%	1.69% to 1.93%

Scenarios

- **High Carbon Price Scenario:** This scenario represents the implementation of policies that are considered sufficient to reduce greenhouse gas emissions in line with the goal of limiting climate change to 2°C by 2100 (the Paris Agreement). This scenario is based on research by OECD and IEA.

- **Moderate Carbon Price Scenario:** This scenario assumes policies will be implemented to reduce greenhouse gas emissions and limit climate change to 2°C in the long term, but with action delayed in the short term. This scenario draws on research by OECD and IEA along with assessments of the sufficiency of country Nationally Determined Contributions by Climate Action Tracker by Ecofys, Climate Analytics and New Climate Team. Countries with Nationally Determined Contributions that are not aligned to the 2°C goal in the short term are assumed to increase their climate mitigation efforts in the medium and long term.

- **Low Carbon Price Scenario:** This scenario represents the full implementation of country Nationally Determined Contributions under the Paris Agreement, based on research by OECD and IEA.

[1] *See – Methodology – Climate Scenario Analysis.*
[2] *The above numbers present a range in change in EBITDA margin. The range covers the years included above, and each number presented is the average change in EBIDTA margin on MW assets for which climate scenario tools and climate earnings at risk data is available.*

Climate Scenario Analysis

Methodology

Short Positions

MW holds both long and short positions. The Climate Scenario Analysis presents ranges for both long and short positions. The purpose and mechanics of a short position make assessing the impact of such positions on Climate Scenario Analysis uncertain. The short position data is included to disclose the fullest picture possible and ensure symmetry with all other metrics presented in this Report. The companies in which MW holds short positions will overall be negatively affected by a rise in carbon prices. This Report reflects the EBITDA Margin range as positive. Mathematically, this is due to the negative reduction in EBIDTA margin being multiplied by the negative exposures the Firm holds in these positions. Practically, if a company's market valuation declines, whether due to an EBITDA deterioration or a number of other factors, the value of a short position in that company will increase.

Net-Zero Target

Incorporated and operating in the UK, MW is aware of the UK Government's commitment to a 100% reduction of greenhouse gas emissions by 2050 compared to 1990 levels (the "Net-Zero Target"). Net-Zero means "any emissions would be balanced by schemes to offset an equivalent amount of greenhouse gases from the atmosphere, such as planting trees or using technology like carbon capture and storage."[1]

The Firm's portfolio management does not integrate an explicit commitment to the Net-Zero Target for the funds it manages because such a commitment requires explicit client consent. The Operating Committee has not issued an instruction in respect of the Net-Zero Target for relevant portfolios.

As previously noted, although the Funds do not commit to a Net-Zero Target, MW actively engages with companies on environmental issues.

At present, investment teams are not systematically measuring the extent to which portfolios are aligned with a "well below 2 degrees" scenario.

[1] *https://commonslibrary.parliament.uk/research-briefings/cdp-2023-0124/*

Metrics

Carbon Footprint

Financed Emissions for Corporates[1]

Measures the carbon emissions for which an investor is responsible, per USD million invested, by their total overall financing. Emissions are apportioned across all outstanding shares and bonds.

2023	Marshall Wace				Reference Indices	
Scope	Long	Long Coverage	Short	Short Coverage	Long	Coverage
GHG Scope 1	56.2	75.0%	54.2	83.0%	40.0	94.6%
GHG Scope 2	12.5	75.0%	11.3	83.0%	9.1	94.6%
GHG Scope 1 + 2	68.7	75.0%	65.5	83.0%	49.2	94.6%
GHG Scope 3	220.7	72.5%	295.9	80.8%	217.2	92.9%

2022	Marshall Wace				Reference Indices	
Scope	Long	Long Coverage	Short	Short Coverage	Long	Coverage
GHG Scope 1	69.4	71.7%	68.2	80.0%	46.8	93.5%
GHG Scope 2	12.0	71.7%	18.3	80.0%	10.9	93.5%
GHG Scope 1 + 2	81.4	71.7%	86.4	80.0%	57.7	93.5%
GHG Scope 3	390.9	70.3%	316.0	79.1%	258.4	92.7%

Data Quality - proportion of emissions estimated by S&P vs reported by the underlying security

2023	Marshall Wace				Reference Indices	
	Long		Short		Long	
Scope	Estimated	Reported	Estimated	Reported	Estimated	Reported
GHG Scope 1	51.1%	48.9%	52.4%	47.6%	39.8%	60.2%
GHG Scope 2	47.5%	52.5%	47.7%	52.3%	39.1%	60.9%
GHG Scope 1 + 2	57.9%	42.1%	58.8%	41.2%	49.0%	51.0%
GHG Scope 3	72.4%	27.6%	69.8%	30.2%	61.7%	38.3%

2022	Marshall Wace				Reference Indices	
	Long		Short		Long	
Scope	Estimated	Reported	Estimated	Reported	Estimated	Reported
GHG Scope 1	51.4%	48.6%	55.6%	44.4%	39.9%	60.1%
GHG Scope 2	46.7%	53.3%	48.5%	51.5%	37.8%	62.2%
GHG Scope 1 + 2	58.4%	41.6%	62.1%	37.9%	48.0%	52.0%
GHG Scope 3	73.3%	26.7%	74.3%	25.8%	61.6%	38.4%

2023 and 2022 emissions calculated using latest available data as of CoB 29 December 2023 and 30 December 2022, respectively.
Carbon emissions provided on the basis of specific Scopes, by tonnes of CO2 per $M Invested.
'Coverage' is defined as the proportion of exposure that has associated data. In the context of long positions, 'Long Coverage' is calculated by dividing the long exposure with data by the total long exposure. Similarly, for short positions, 'Short Coverage' is calculated by dividing the short exposure with data by the total short exposure.
[1]Greenhouse gas (GHG) emissions from the consumption of purchased electricity, heat, or steam by the company (categorized by the greenhouse gas protocol). Emissions are calculated using a location-based methodology i.e. considering specific emission factors from suppliers and associated with contractual instruments such as renewable energy certificate (REC).
Source: Marshall Wace, S&P Trucost – See Methodology: Internal and External Data Sources.

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Metrics

Carbon Footprint

Weighted Average Carbon Intensity[1]

Describes the carbon emissions of MW funds produced per $1M of revenue in comparison to their benchmarks.[2]

2023	Marshall Wace				Reference Indices	
Scope	Long	Long Coverage	Short	Short Coverage	Long	Long Coverage
GHG Scope 1	107.9	75.0%	116.1	83.0%	121.2	94.6%
GHG Scope 2	29.7	75.0%	28.5	83.0%	34.2	94.6%
GHG Scope 1 + 2	137.7	75.0%	144.6	83.0%	155.4	94.6%
GHG Scope 3	417.6	72.5%	547.5	80.8%	577.8	92.9%

2022	Marshall Wace				Reference Indices	
Scope	Long	Long Coverage	Short	Short Coverage	Long	Long Coverage
GHG Scope 1	143.6	71.7%	95.4	80.0%	136.8	93.5%
GHG Scope 2	26.7	71.7%	32.3	80.0%	33.1	93.5%
GHG Scope 1 + 2	170.2	71.7%	127.7	80.0%	169.9	93.5%
GHG Scope 3	661.2	70.3%	531.0	79.1%	653.9	92.7%

Metrics - Methodology

Methodologies align with the TCFD's guidelines for Asset Managers.

All MW holdings data is as of 29 December 2023 and 30 December 2022 respectively. Emissions data was sourced from S&P Global Trucost. Emissions calculations remain challenging for the asset management industry due to the difficulties in getting data contemporaneous to the holdings date. Companies usually report emissions data with a lag after year end, or after the closing of their financial year. Further delays are incurred while data providers, including S&P Global Trucost, check the data included in the datasets. At times providers add their own estimates which further stretches the timing of the process. Due to these delays, holdings and emissions dates may not always coincide. MW strives to use the most update emissions and EVIC data from all data providers.

2023 and 2022 emissions calculated using latest available data as of CoB 29 December 2023 and 30 December 2022, respectively.
Carbon Intensity provided on the basis of specific Scopes, by tonnes of CO2 per $1M revenue.
'Coverage' is defined as the proportion of exposure that has associated data. In the context of long positions, 'Long Coverage' is calculated by dividing the long exposure with data by the total long exposure. Similarly, for short positions, 'Short Coverage' is calculated by dividing the short exposure with data by the total short exposure.
[1] Carbon Intensity calculated using the sum of the data item value divided by the sum of the revenue in $m multiplied by long exposure percentage for Long exposure. This is calculated using the sum of the data item value divided by the sum of the revenue in $m multiplied by the absolute value of the short exposure. Source: Marshall Wace, Bloomberg, MSCI, S&P Trucost – See Methodology: Internal and External Data Sources.
[2] Per the TCFD Guidelines Weighted Average Carbon Intensity is presented in this Report per $1M of revenue. However, for internal purposes, MW calculates these metrics based on Enterprise Value Including Cash ("EVIC"). MW believes the industry is moving from revenue-based to EVIC-based methodologies. Further, in 2020 the Partnership for Carbon Accounting Financials ("PCAF") set standards based on EVIC-based 'Financed Emissions' and EVIC-based Emissions Intensity. Also, the EU Commission Delegated Regulation 2020/1818 on climate benchmarks also defines emissions intensity with EVIC.

Metrics

Methods, Data and Limitations

MSCI Climate Change Data and S&P Global Trucost Environmental & Earnings at Risk Data (Emissions)

S&P Global Trucost assembled a database of publicly available information on current carbon prices across numerous jurisdictions.

The Unpriced Cost of Carbon ("UCC") is the estimated additional financial cost per tonne of greenhouse gas emissions in a future year. It is the difference between current carbon prices and possible future carbon prices for a given sector, geography, and year. The UCC is used to calculate the EBITDA Margin Reduction: the implied change in EBITDA margins based on a scenario/year compared to the current margins.

Limitations

Emissions calculations remain challenging due to obtaining actual or similar data contemporaneous to the requisite holdings dates. Due to these delays, holdings and emissions dates may not always coincide; however, MW strives to use the most current emissions and EVIC data, which for this Report is: 14 June 2024 (MSCI), 29 December 2023 (S&P Environmental), and 30 December 2022 (S&P Climate Risk).

This Report includes the Covered Assets (on a disaggregated position basis), and excludes real estate, private equity, commodities, derivatives not linked to corporate securities, and any other product not mentioned in Covered Assets due to a lack of reliable data. Therefore, this Report reflects 66.5% of MW's long positions and 55.7% of MW's short positions for 2023; and 73.8% of long positions and 68.6% of short positions for 2022.

MW believes making assumptions related to gaps in the available data would be materially misleading. As such, it is part of industry groups and consultations (e.g. UNPRI, CDP and TPI) considering improvements in data coverage and methodologies.

Internal and External Data Sources

The underlying MW data is computed from 1 January 2021 and is available until 28 June 2024. All exposures are represented in the form of long/short equity. Additionally, all values are converted to US dollars, and are compared to external data from data providers on a US dollar basis.

Benchmark weights do not include short exposure. Long/Short exposure is only reported and available for MW funds, while the Benchmarks are only reported as long. MW reports Weighted Average Carbon Intensity based on revenue per $1M invested.

5 external datasets are used in this Report

- MSCI Climate Change Indexes;
- S&P Trucost – Climate and Environmental Data;
- S&P Trucost – Carbon Earnings at Risk Data;
- Bloomberg MSCI Euro Corporate Climate Transition EVIC Intensity Index; and
- Bloomberg MSCI US Corporate Climate Transition EVIC Intensity Index.

Important Disclosures

Data obtained from third-party sources (including MSCI, Bloomberg and S&P Trucost) is believed reliable but have not been independently verified by Marshall Wace.

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