



# Climate Risk Report

Portfolio Name: WS Global Emerging Markets Index Pension Fund

Waystone Fund Number: 1930

As of: 31 December 2024

Currency: GBP



# Carbon Emissions Dashboard

Carbon Footprint		Portfolio	Coverage
Allocation Base	EVIC		
● <b>Financed Carbon Emissions</b> tons CO2e / GBP M invested Investor Allocation: EVIC	Scope 1+2	167.1	92.1%
	Scope 3 – upstream	147.9	92.2%
	Scope 3 – downstream	418.4	92.2%
● <b>Total Financed Carbon Emissions</b> tons CO2e Investor Allocation: EVIC	Scope 1+2	124.8	92.1%
	Scope 3 – upstream	110.5	92.2%
	Scope 3 – downstream	312.4	92.2%
● <b>Financed Carbon Intensity</b> tons CO2e / GBP M sales Investor Allocation: EVIC	Scope 1+2	415.8	92.0%
	Scope 3 – upstream	368.6	92.0%
	Scope 3 – downstream	1,042.7	92.0%
Weighted Average Carbon Intensity		Portfolio	Coverage
● <b>Corporate constituents</b> tons CO2e / GBP M sales	Scope 1+2	477.4	92.1%
	Scope 3 – upstream	354.8	92.1%
	Scope 3 – downstream	841.9	92.1%
● <b>Sovereign constituents</b> tons CO2e / GBP M GDP Nominal	GHG intensity	179.2	0.1%
Fossil Fuel Exposure		Portfolio	
Potential emissions from fossil fuel reserves (tCO2e / GBP M invested)		5,819.8	
Fossil Fuel Based Revenue Exposure		3.5%	
Thermal coal exposure (Any tie)		4.0%	
Oil & Gas exposure (Any tie)		9.4%	
Exposure to Power Generation			
Thermal Coal (apportioned fuel mix, % of generation)		50.0%	
Green and Fossil Fuel Based Revenue Coverage		93.1%	

MSCI Low Carbon Transition Risk Assessment		Portfolio
Exposure to companies classified as:		
Low Carbon Solutions		1.8%
Low Carbon Transition Risk		26.3%
Low Carbon Transition Risk Coverage		92.0%
Transition Opportunities		Portfolio
Green Revenue Exposure		3.5%
Exposure to Power Generation		
Renewables (apportioned fuel mix, % of generation)		11.1%
Companies' Transition Plans		Portfolio
Companies with GHG emission reduction targets		67.2%
Companies with targets across all scopes		32.8%
Companies with SBTi approved targets		16.6%
Companies with top quartile carbon management score		31.2%

# Carbon Emissions: Sectoral Footprint

## Financed Carbon Emission (S1+S2) by Sector

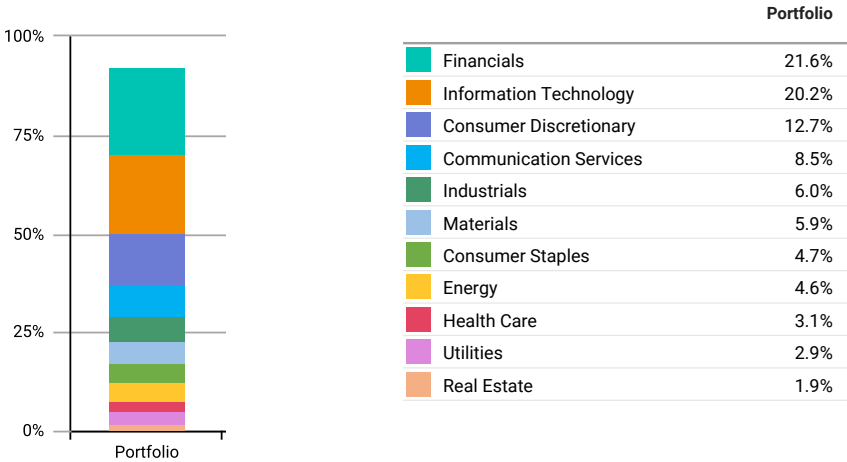
	Portfolio
Utilities	1,281.1
Materials	1,121.5
Energy	499.3
Industrials	143.9
Consumer Staples	68.7
Information Technology	36.9
Health Care	33.0
Consumer Discretionary	28.6
Communication Services	23.6
Real Estate	18.5
Financials	4.6
Total	167.1

## Sectoral Contribution to Financed Carbon Emissions (S1+S2)

	Portfolio
Communication Services	1.3%
Consumer Discretionary	2.4%
Consumer Staples	2.1%
Energy	14.9%
Financials	0.6%
Health Care	0.7%
Industrials	5.7%
Information Technology	4.9%
Materials	42.8%
Real Estate	0.2%
Utilities	24.5%

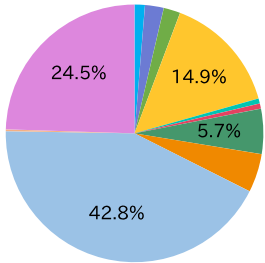
## Sector Weight to Financed Carbon Emissions (S1+S2)

Market Cap Weight



The column chart shows the composition of the portfolio by market capitalization to financed carbon emissions. This highlights that dominant sectors, in terms of emissions, tend to be Energy, Utilities, and Materials.

Contribution to Financed Carbon Emissions

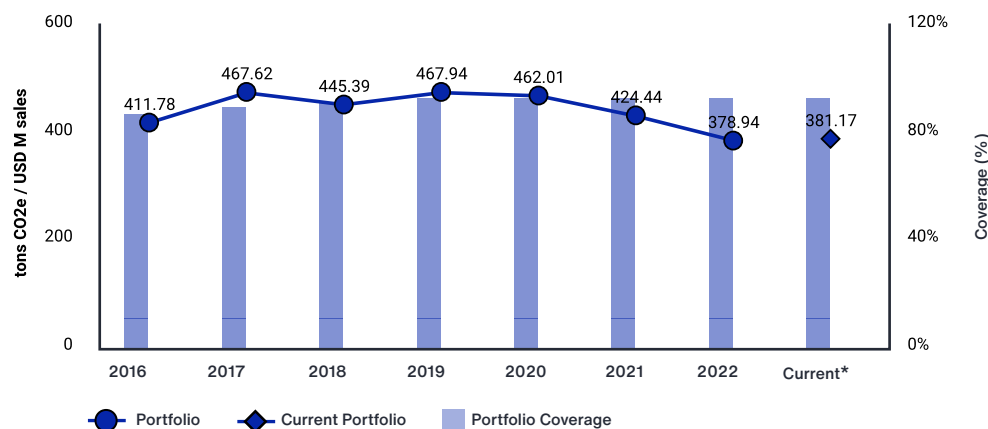


The pie chart shows the composition by each sector's contribution to financed carbon emissions. This highlights that dominant sectors, in terms of emissions, tend to be Energy, Utilities, and Materials.



# Carbon Emission: Trends and Profile

Weighted Average Carbon Intensity of Current Holdings Over Time



\* Current refers to the selected analysis date and provides additional context to the analysis. For example, the figure shown could either be in the past at a specific point in time, or the present date if not specified.

**Change across 5 years = -14.4%**

**Change since baseline NZ year of 2019 = -18.5%**

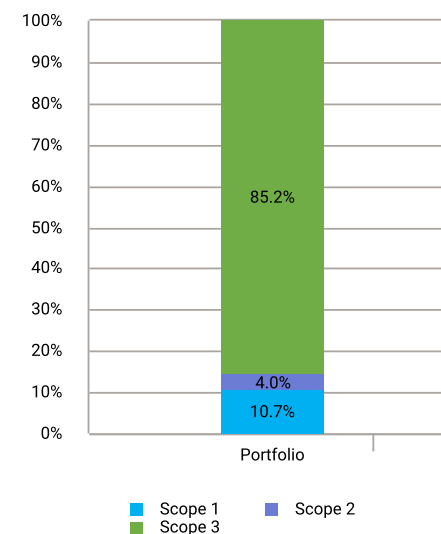
The chart above shows change over time of the weighted average carbon intensity (WACI) of the portfolio constituents and weights at the date of analysis. This analysis is intended to provide an understanding of how the companies in the portfolio have decarbonised over time, as investors increasingly monitor decarbonisation to support climate commitments such as net zero.

The portfolio WACI is illustrated with blue circles. Please note that the analysis does not take into account changes in constituents over this time period.

Portfolio coverage of this metric is also provided which provides contextual information. For example, a lower WACI figure may be related to lower coverage of that metric in a certain year. There can be lower coverage due to companies' reporting cycles and take time in different regions around the world.

Also provided is a % change of the WACI over a 5-year period and a % change compared to the commonly used net zero baseline year of 2019 for further monitoring and reporting.

Contribution of Emissions by Scope



The chart above illustrates the emissions profile of the portfolio denoting the share between Scopes 1, 2, and 3 emissions. Please note Scope 3 here utilises a combination of estimated and reported emissions data.

# Climate Scenario Analysis

## Climate Value at Risk






Selected Scenario : 1.5°C NGFS Orderly

	1.5°C NGFS Orderly	1.5° REMIND NGFS Orderly	1.5° REMIND NGFS Disorderly	2° REMIND NGFS Orderly	3° REMIND NGFS NDC
	Portfolio	Portfolio	Portfolio	Portfolio	Portfolio
Policy Climate Var (Scope 1,2,3)	-14.7%	-14.7%	-16.7%	-5.3%	-3.1%
Technology Opportunities Climate VaR	1.7%	1.7%	2.3%	0.4%	0.3%
Physical Climate VaR Aggressive	-3.9%	-3.9%	-3.9%	-6.1%	-8.2%
Aggregated Climate VaR	-16.9%	-16.9%	-18.3%	-11.0%	-11.1%






## Physical Climate Value at Risk Detail

Selected Scenario : Aggressive

### Chronic Risks (0.5° global grid)

 Extreme Heat -1.9%	 Extreme Cold 0.1%	 Wind Gusts -0.1%	 Heavy Snowfall 0.0%	 Heavy Precipitation -0.4%
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### Acute Risk (high res)

 Tropical Cyclones -0.2%	 Coastal Flooding -1.4%	 Fluvial Flooding -0.2%	 River Low Flow -5.5%	 Wildfires 0.0%
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### Aggregate Physical Climate VaR

-3.9%

## Climate VaR Portfolio Coverage Summary

	Portfolio
Policy Climate VaR (Scope 1,2,3)	91.1%
Technology Opportunities Climate VaR	62.0%
Physical Climate VaR	88.7%

## Top 10 Physical Risk Climate VaR Companies

Security	Physical Risk Climate VaR Contribution		Primary Physical Risk Hazard
QATAR NATIONAL BANK (Q.P.S.C.)	-0.18%		Coastal Flooding
TENAGA NASIONAL BERHAD	-0.11%		Coastal Flooding
JD.COM, INC.	-0.10%		Extreme Heat
RELIANCE INDUSTRIES LIMITED	-0.09%		Extreme Heat
INDIAN OIL CORPORATION LIMITED	-0.08%		Coastal Flooding
BANK OF CHINA LIMITED	-0.07%		Coastal Flooding
Alibaba Group Holding Limited	-0.07%		Extreme Heat
HON HAI PRECISION INDUSTRY CO., LTD.	-0.06%		Extreme Heat
INDUSTRIAL AND COMMERCIAL BANK OF CHINA LIMITED	-0.06%		Coastal Flooding
Petroleo Brasileiro S.A. (Petrobras)	-0.05%		Coastal Flooding

The table provides information on the most exposed companies to physical risk exposure in the portfolio such as extreme weather events in the selected physical risk scenario. However, physical risks can be both positive and negative and be expressed in both positive and negative values. MSCI currently models ten hazards including extreme heat and cold, coastal and river flooding, wildfires as well as wind gusts and precipitation. Physical changes can be event-driven ('acute') or longer-term in nature ('chronic').

# Climate Value at Risk

## Top 10 Aggregated Climate VaR Risk Contributors

Security	Aggregated Policy Risk Climate VaR	Technology Opportunities Climate VaR	Physical Risk Climate VaR	Aggregated Climate VaR	Weight (%)	Climate VaR Risk Contribution
Petroleo Brasileiro S.A. (Petrobras)	-97.71%	1.43%	-11.79%	-100.00%	0.41%	-0.41%
VALE S.A.	-100.00%	0.01%	-4.40%	-100.00%	0.39%	-0.39%
RELIANCE INDUSTRIES LIMITED	-18.72%	0.86%	-6.34%	-24.20%	1.19%	-0.29%
ACWA POWER Company SJSC	-90.94%	2.56%	-0.12%	-88.50%	0.29%	-0.26%
Saudi Arabian Oil Company	-46.10%	0.00%	-1.62%	-47.72%	0.51%	-0.24%
JD.COM, INC.	-22.31%	0.00%	-14.53%	-36.84%	0.62%	-0.23%
NTPC LIMITED	-100.00%	3.73%	-21.96%	-100.00%	0.21%	-0.21%
Saudi Basic Industries Corporation SJSC	-100.00%	1.08%	-4.66%	-100.00%	0.20%	-0.20%
PetroChina Company Limited	-100.00%	2.69%	-2.84%	-100.00%	0.20%	-0.20%
HON HAI PRECISION INDUSTRY CO., LTD.	-15.80%	0.22%	-6.87%	-22.45%	0.80%	-0.18%

The table provides an overview of the companies with the highest negative Aggregated Climate VaR contribution in the portfolio. The position weight of each individual security in the portfolio is multiplied by the Aggregated Climate VaR to establish the Climate VaR risk contribution of the portfolio. Aggregated Climate VaR in this chart is the sum of Policy Risk from Direct GHG Emissions (Scope 1) Climate VaR, Technology Opportunities Climate VaR and Physical Climate VaR for the selected scenario.

Climate VaR numbers are calculated at the security level, i.e. 2 securities associated with the same issuer could have different Climate VaR.

## Portfolio Level Sovereign Climate VaR Results

	Portfolio
1p5C NGFS Orderly	0.00%
1p5C NGFS Disorderly	0.00%
2C NGFS Orderly	0.00%
2C NGFS Disorderly	0.00%
3C NGFS Current Policies	0.00%
3C NGFS	0.00%
Coverage	0.00%

## Portfolio Weights of Largest Contributor Countries by Time-to-maturity

Country/Duration	Total
<b>Total</b>	<b>0.00%</b>

Total includes all other country buckets not listed in the above list.

Coverage here denotes total portfolio coverage across all asset classes, not only the sovereign portion of the portfolio. The coverage metrics presented in this report are computed in the context of the entire long-only side of the portfolio – no weight adjustments are performed for the respective scopes of corporate or sovereign exposures.

## Understanding Sovereign Climate VaR

Sovereign Bond Climate VaR is designed to provide a forward-looking and return-based valuation assessment to measure climate related risks in a sovereign bond investment portfolio. The fully quantitative model offers insights into how climate change could affect sovereign bond valuations through the use of a stress testing framework. It estimates the change in the sovereign yield curve when market expectations move from a climate-agnostic baseline expectation to any other climate scenario. Yield curve changes are then used to stress test the value of local-currency sovereign bonds.

The model produces two types of outputs: the potential impact of climate change and economic decarbonization on implied yield curves and sovereign bond valuations.

# Implied Temperature Rise

## MSCI Implied Temperature Rise Company Analysis

### Aggregated Implied Temperature Rise

**Portfolio:** 3.0°C

### Implied Temperature Rise: Companies with Highest Temperature Alignment

Company Name	Weight	Implied Temperature Rise
TRIP.COM GROUP LIMITED	0.5%	10.0°C
ACWA POWER Company SJSC	0.3%	10.0°C
NTPC LIMITED	0.2%	10.0°C
Saudi Basic Industries Corporation SJSC	0.2%	10.0°C
China Shenhua Energy Company Limited	0.2%	10.0°C
WEG S.A.	0.2%	10.0°C
COAL INDIA LTD	0.1%	10.0°C
EICHER MOTORS LIMITED	0.1%	10.0°C
Pop Mart International Group Ltd	0.1%	10.0°C
Contemporary Amperex Technology Co., Ltd.	0.1%	10.0°C

### Implied Temperature Rise: Companies with Lowest Temperature Alignment

Company Name	Weight	Implied Temperature Rise
HCL TECHNOLOGIES LIMITED	0.3%	1.3°C
ANGLOGOLD ASHANTI PLC	0.2%	1.3°C
Gold Fields Limited	0.2%	1.3°C
POWER GRID CORPORATION OF INDIA LIMITED	0.2%	1.3°C
TECH MAHINDRA LIMITED	0.1%	1.3°C
WIPRO LIMITED	0.1%	1.3°C
KGI Financial Holding Co., Ltd.	0.1%	1.3°C
EQUATORIAL S.A.	0.1%	1.3°C
ADANI GREEN ENERGY LIMITED	0.0%	1.3°C
CATCHER TECHNOLOGY CO., LTD.	0.0%	1.3°C

### Implied Temperature Rise

The Implied Temperature Rise (ITR) metric provides an indication of how well public companies align with global temperature goals. Expressed in degrees Celsius, it is an intuitive, forward-looking that shows how a company aligns with the ambitions of the Paris Agreement – which is to keep a global temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C. The portfolio-level Implied Temperature Rise compares the sum of “owned” projected GHG emissions against the sum of “owned” carbon budgets for the underlying fund holdings. The portfolio's total estimated carbon budget over- / undershoot is then converted to a degree of temperature rise (°C) using the TCRE. The allocation base used to define ownership is Enterprise Value including Cash (EVIC) in order to enable the analysis of equity and corporate bond portfolios.