# Warwickshire Pension Fund

Climate Risk Report Q2 2023

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**Executive Summary** 

# Understanding Climate Risk Metrics

Metric	Description/ Methodology
Weighted Average Carbon Intensity	A measure of a portfolio's exposure to carbon-intense companies. This is expressed in terms of tons of CO2 equivalent emitted per million dollars of revenue, weighted by the size of the allocation to each company. Is measured using scope 1 + scope 2 emissions. Scope 1 emissions are those from sources owned or controlled by the company, typically direct combustion of fuel as in a furnace or vehicle. Scope 2 emissions are those caused by the generation of electricity purchased by the company.
Total Carbon Emissions	This represents the portfolios estimated Scope 1 + Scope 2 greenhouse gas emissions. This is expressed in terms of thousand tons of CO2 equivalent emitted by the companies invested in by the portfolio, weighted by the size of the allocation to each company.
Tonnes CO2e per \$m Carbon Footprint (EVIC)	This shows the portfolio's carbon footprint. This is calculated by adding up the total carbon emissions and dividing by the portfolio's total EVIC (enterprise value including cash).
Green Revenues %	The weighted average % of revenue for portfolio companies derived from any of the six environmental impact themes including alternative energy, energy efficiency, green building, pollution prevention, sustainable water, or sustainable agriculture.
Low Carbon Transition Score	A company level score that measures a company's level of alignment to the Low Carbon Transition. Companies with higher Low Carbon Transition score are more aligned with the Low Carbon Transition compared to the companies with lower scores. (Score: 0-10)
Portfolio owning clean technology solutions	Companies involved in clean technology solutions earn more than 0% of their revenues in the following categories: Alternative Energy, Energy Efficiency, Green Building, Pollution Prevention, and Sustainable Water.
Portfolio With Ties to Fossil Fuels	The percentage of the portfolio invested in companies with an industry tie to fossil fuels (thermal coal, oil and gas), in particular reserve ownership, related revenues and power generation. It does not flag companies providing evidence of owning metallurgical coal reserves.

# **Executive Summary**

This paper sets out some key metrics for the Fund's carbon exposure as at the latest available date. This being December 2022, where available or March 2022 for some metrics that are only reported annually.

This paper only focuses on the Fund's listed or public assets, and does not cover the private assets that the Fund invests in. We expect that the private asset funds reporting will improve over time.

There are several companies whose contribution to the Fund's carbon footprint significantly outweighs their allocation. We recommend that the Fund engages with its investment managers in relation to these companies, with the objective of managing and mitigating climate risk via proactive and effective engagement.

We note that in this report all data has been provided by the managers, and we have carried out high level sense checks rather than a detailed review of the data. We would be happy to provide a more detailed report should the Committee wish to take this approach.



Subject	Comments			Action
Climate Risk	The Fund's managers are broad their market benchmarks, this	The Fund should engage with their managers to understand what steps they take to ensure climate risk is integrated in the investment process and any recent manager engagements they have had.		
	LGIM Fund	Top 3 emitters contribution to Fund WACI	% of Total LGIM Fund assets represented by the top 3 emitters	
	UK Equity Fund	38%	10%	
	Emerging Markets Equity Fund	14%	7%	The Fund should engage with LGIM to
Top emitters for each	Asia Pac (ex Jap) Equity Fund	53%	6%	understand any recent engagement activity with the business on low carbon
LGIM mandate	European (ex UK) Equity Fund	36%	2%	management strategies that they plan to
	Japan Equity Fund	19%	2%	put in place.
	North American Equity Fund	17%	1%	
	IG Corporate Bond All Stocks Index	9%	1%	
	RAFI All World 3000 Equity Fund	8%	1%	
Data	<ul> <li>This report only covers c.52% of the Fund's total assets.</li> <li>This lack of coverage is expected to improve over time.</li> <li>We expect scope 3 emissions to be included in next year's reporting and more consistency in metrics used across managers.</li> </ul>			The Fund may wish to consider engaging with the managers not included in this paper to provide support for more carbon reporting.

### Funds reviewed

We have received data from the following managers:

- BTC UK Listed Equity Alpha fund, Global Equity Alpha fund and Sterling Investment Grade Credit Fund
- · LGIM regional equity funds, RAFI Equity fund and Investment Grade Corporate Bond All Stocks Index fund

It is important to note that these managers have provided their reporting data in different formats, which makes a clear comparison between funds difficult to carry out. We expect that next year's reporting will be improved and there will be more consistency across manager reporting.

# **Executive Summary**

The chart plots emissions intensity vs proportion of AUM (covering those assets for which reporting was available).

For LGIM this is represented by carbon footprint (tCO2e per \$m EVIC) while BTC is Carbon Emissions/\$m invested (per \$m of equity).

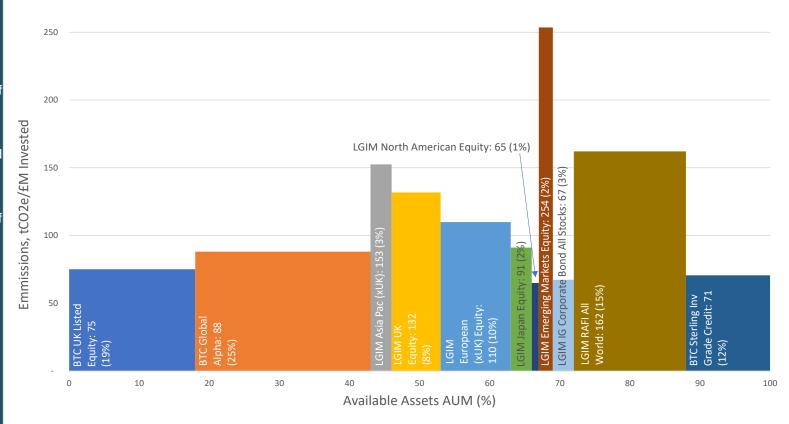
Due to the differences in metrics provided the chart should be used for illustrative purposes only.

The area of each block represents the absolute volume of emissions financed by each mandate. The larger the area the more emissions.

The largest contributor is LGIM RAFI mainly because of its high emissions intensity.
Decarbonising this mandate should be a priority for the fund.

The second largest is BTC GEA, although we note the manager has already made good progress in reducing emissions intensity.

### Contribution to Fund Emissions



### Notes:

The above chart based on the available data provided by the managers and doesn't represent the full AUM of the Fund. As such the AUM allocations (%) shown are based on the available assets only.

# Climate Risk Analysis

The BTC UK Listed Equity Fund experienced a decrease in WACI and Carbon Intensity while the Global Equity Alpha Fund had an increase in both metrics.

The percentage of the portfolio owning clean energy increased for both funds but the percentage of the portfolio with ties to fossil fuels increased for the UK Listed Equity Fund and decreased slightly for the Global Equity Alpha Fund.

### **BTC Funds**

UK Listed Equity Alpha metrics	Mar-22	Mar 21	Year on Year Change
Weighted Average Carbon Intensity (tCO2/\$m Sales)	61	81	-20
Carbon Emissions (tCO2)/\$m Invested (per \$m of equity)	75	122	-47
% Of Portfolio owning clean technology solutions	23%	22%	1%
% Of Portfolio With Ties to Fossil Fuels	16%	12%	4%

Global Equity Alpha metrics	Mar-22	Mar-21	<b>Year on Year Change</b>
Weighted Average Carbon Intensity (tCO2/\$m Sales)	95	67	28
Carbon Emissions (tCO2)/\$m Invested (per \$m of equity)	88	51	37
% Of Portfolio owning clean technology solutions	29%	28%	1%
% Of Portfolio With Ties to Fossil Fuels	2%	3%	-1%

### Climate Risk Analysis

There was no significant change year on year on the LGIM Fund's Green Revenues, however, WACI for the Emerging markets Fund saw the greatest increase with the IG Corporate Bond Fund seeing decrease in it WACI.

### LGIM Funds

	WACI_(tCO2/\$m sales)			
	Dec-22	<b>Mar-21</b>	Change	
UK	202	138	64	
North America	212	138	74	
European (ex UK)	177	143	35	
Asia Pacific (ex Japan)	345	358	-13	
Japan	117	92	24	
<b>Emerging Markets</b>	591	325	266	
RAFI	289	247	43	
IG Corporate Bonds	126	168	-42	

### Tonnes CO2e per \$m Carbon

	<b>Mar-22</b>	Mar-21	Change
UK	85	85	0
North America	46	42	4
European (ex UK)	90	98	-8
Asia Pacific (ex Japan)	115	100	15
Japan	80	77	3
<b>Emerging Markets</b>	187	178	9
RAFI	130	148	-17
IG Corporate Bonds	67	78	-11

### Green Revenues (%)

	Dec-22	Mar-21	Change
UK	2%	2%	0%
North America	3%	3%	0%
European (ex UK)	6%	6%	0%
Asia Pacific (ex Japan)	3%	2%	1%
Japan	4%	3%	1%
Emerging Markets	6%	7%	0%
RAFI	3%	3%	0%
IG Corporate Bonds	3%	4%	-1%

### % Of Portfolio With Ties to Fossil Fuels

	<b>Mar-22</b>	Mar-21	Change
UK	10%	6%	4%
North America	4%	3%	1%
European (ex UK)	4%	3%	0%
Asia Pacific (ex Japan)	3%	3%	0%
Japan	1%	1%	0%
<b>Emerging Markets</b>	6%	6%	0%
RAFI	9%	9%	0%
IG Corporate Bonds	3%	3%	0%

We have compared the two BTC equity funds that the Fund invests in against their respective benchmarks using selected carbon metrics.

The funds outperform their respective benchmarks in three of the four metrics. However, both funds have a lower proportion of the assets in clean technology solutions. This is because BTC categorisation is more stringent than MSCI ACWI index.

In terms of the Fund's private market investments, BTC have stated that their portfolios are relatively immature and therefore BTC expect carbon data coverage to develop over time.

### Key Takeaways/ Actions

- The two funds perform well from a climate perspective, although they underperform benchmarks in terms of proportion of the portfolio owning clean technology solutions.
- It would be good to understand the manager's integration of carbon risk into the investment strategy.





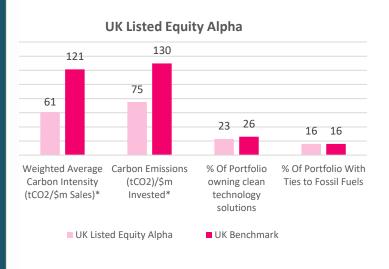


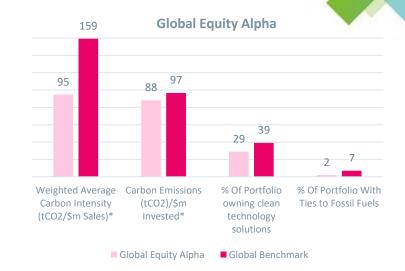
**Manager Level** 

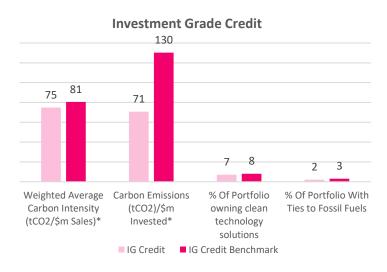


Appendices

# **BTC** funds







Source: \*BTC. WACI and Carbon emissions data is as at 31 December 2022 and Clean technology and Ties to fossil fuels is as at 31 March 2022 Fund benchmark for UK Listed Equity Alpha is FTSE ALL Share Index and for Global Equity Alpha is MSCI ACWI







### Climate Risk Analysis

LGIM have shared details on the underlying fund exposures as at 31 December 2022. The Fund holds 9 funds with LGIM, which span regional/global equity, corporate bonds and gilts funds.

## LGIM exposures

- The Asia Pacific (ex Japan) and Emerging Markets funds have the greatest WACI exposure. These regions tend to have more exposure to companies with a higher carbon footprint.
- The Emerging Markets and European (ex UK) funds have the highest proportion of assets with green revenue.
- We note that the LGIM RAFI fund, which invests based on a non-price weighted index strategy, has a higher WACI than most of the regional funds. This is due to the fund being heavily weighted towards value stocks, which tend to be in the oil/gas and utilities sectors.



### **Key Takeaways/ Actions**

We suggest that the Fund engages with LGIM with regard to some or all of these companies.







The RAFI Equity fund shows a mixed performance against the carbon metrics, with a higher WACI and lower ties to green revenues and a lower proportion of ties to fossil fuels.

The RAFI Equity Fund also represent the Funds largest allocation to LGIM assets and is therefore the largest listed LGIM contributor to Emission as per the chart on slide 4

The European Equity fund has a higher carbon impact than the FTSE Europe ex UK Index but is relatively more favourable across all illustrative metrics.

Please note that the benchmark shown on this page is for illustration only and some of the differences between the fund and the benchmark shown may be due to differences in the underlying assets rather than a drift away from the benchmark. However we are investigating the anomalies with LGIM.

# RAFI All World 3000 Equity Fund

	Weighted Average Carbon Intensity (tCO2/£m Sales)	Carbon Footprint (tCO2e per \$m EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	231.7	130.2	2.5%	8.9%
FTSE RAFI AW	244.6	n/a	3.6%	16.5%
Relative	-12.9	n/a	-1.1%	-7.7%

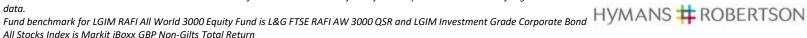
Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO2/£m Sales)	Contribution to WACI	% of total Fund assets
Duke Energy Corp	6.1	2.6%	0.2%
Exxon Mobil Corp	6.0	2.6%	1.2%
Southern Co/The	5.8	2.5%	0.1%
American Electric Power Co Inc	4.7	2.0%	0.1%
Vistra Corp	3.9	1.7%	0.0%

### European (ex UK) Equity Fund

	Weighted Average Carbon Intensity (tCO2/£m revenue)	Carbon Footprint (tCO2e per \$m EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	136.2	90.3	5.1%	3.6%
FTSE Europe ex UK	129.4	n/a	4.8%	10.2%
Relative	6.8	n/a	0.3%	-6.6%

Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO2/£m Sales)	Contribution to WACI	% of total Fund assets
RWE AG	22.8	16.8%	0.4%
Holcim Ltd	15.1	11.1%	0.3%
Air Liquide SA	11.7	8.6%	1.0%
ArcelorMittal SA	6.2	4.6%	0.2%
EnelSpA	5.5	4.0%	0.2%

Source:\*LGIM data is as at 31 March 2022. LGIM use ISS for carbon data and Refinitiv for enterprise value and HSBC for green revenue





# Appendices

### Climate Risk Analysis

The UK Equity fund has a higher carbon impact than its comparable benchmark.

Based on the top 5 emitters, we note that the UK fund has a number of stocks which contribute significantly more to emissions than their capital weight such as CRH PLC.

The Investment Grade Credit allocation represents a mixed performance against the metrics with a higher WACI but much lower tie to fossil fuels.

The top 5 carbon emitters also represent a minor allocation within the fund.

Please note that the benchmark shown on this page is for illustration only and some of the differences between the fund and the benchmark shown may be due to differences in the underlying assets rather than a drift away from the benchmark. However we are investigating the anomalies with LGIM.

# **UK Equity Fund**

	Weighted Average Carbon Intensity (tCO2/£m revenue)	Carbon Footprint (tCO2e per \$m EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	125.5	85.2	1.6%	10.2%
FTSE All-Share	143.6	n/a	2.5%	4.9%
Relative	-18.1	n/a	-0.9%	5.3%

Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO2/£m Sales)	Contribution to WACI	% of total Fund assets
Rio Tinto PLC	18.1	14.4%	2.8%
Shell PLC	16.0	12.7%	6.3%
CRH PLC	13.5	10.7%	1.0%
Anglo American PLC	12.7	10.2%	2.0%
SSE PLC	8.5	6.8%	0.8%

### Investment Grade Corporate Bond All Stocks Index

	Weighted Average Carbon Intensity (tCO2/£m Sales)	Carbon Footprint (tCO2e per \$m EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	124.3	67.03	3.3%	2.7%
Markit iBoxx Non-Gilts	102.8	n/a	5.9%	10.8%
Relative	21.5	n/a	-2.6%	-8.1%

Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO2/£m Sales)	Contribution to WACI	% of total Fund assets
Enel Finance International NV	4.4	3.5%	0.3%
Engie SA	3.7	3.0%	0.3%
Holcim Sterling Finance			
Netherlands (May2032)	3.4	2.7%	0.0%
Holcim Sterling Finance			
Netherlands (Apr2034)	3.2	2.6%	0.0%
VeoliaEnvironnementSA	2.7	2.2%	0.2%

Source: LGIM data is as at 31 March 2022. LGIM use ISS for carbon data and Refinitiv for enterprise value and HSBC for green revenue



The Asia Pacific fund also

the exception being Ties to

does not compare as

favourably across the majority of the metrics with

The Asia Pacific fund's largest contributor to emissions (Power Assets Holdings) contributes 42% of the fund's WACI but makes up less than 1% of total fund

The Emerging Markets
Equity funds shows a mixed
performance against the
carbon metrics. With a
higher WACI and lower ties

Fossil fuels.

assets.

to fossil fuels.

with LGIM.

Please note that the benchmark shown on this page is for illustration only and some of the differences between the fund and the benchmark shown may be due to differences in the Sub-Fund Level



# Asia Pac (ex Japan) Equity Fund

Weighted Average
Carbon Intensity

Carbon Footprint (tCO2e per \$m EVIC) Green Revenues Ties to Fossil Fuels

**Appendices** 

Fund	(tCO2/£m revenue)	114.6	1.9%	2.7%
FTSE Asia ex Japan	209.7	n/a	4.8%	13.9%
Relative	213.2	n/a	-2.8%	-11.2%

Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO2/£m Sales)	Contribution to WACI	% of total Fund assets
Power Assets Holdings Ltd	178.9	42.3%	0.3%
CLP Holdings Ltd	23.3	5.5%	0.5%
BHP Group Ltd	21.1	5.0%	5.5%
Woodside Petroleum Ltd	18.1	4.3%	0.7%
CKInfrastructure Holdings Ltd	14.0	3.3%	0.1%

# **Emerging Markets Equity Fund**

	Weighted Average Carbon Intensity (tCO2/£m revenue)	Carbon Footprint (tCO2e per \$m EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	380.2	186.9	6.7%	6.1%
FTSE Emerging Markets	334.2	n/a	4.5%	11.3%
Relative	46.0	n/a	2.3%	-5.1%

Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO2/£m Sales)	Contribution to WACI	% of total Fund assets
NTPC Ltd	20.2	5.3%	0.1%
Taiwan Semiconductor			
Manufacturing Company	18.9	5.0%	7.2%
UltraTech Cement Ltd	12.7	3.3%	0.2%
Sasol Ltd	11.1	2.9%	0.2%
China Resources Power Holdings Co	8.5	2.2%	0.1%

underlying assets rather than a drift away from the benchmark. However we are investigating the anomalies

Source:\*LGIM data is as at 31 March 2022. LGIM use ISS for carbon data and Refinitiv for enterprise value and HSBC for green revenue data. Fund benchmark for LGIM European (ex UK) Equity Fund is FTSE Developed Europe ex UK and LGIM Asia Pac (ex Japan) Equity Fund is FTSE Developed Asia Pacific ex Japan.





Appendices

# Japan Equity Fund

	Weighted Average Carbon Intensity (tCO2/£m revenue)	Carbon Footprint (tCO2e per \$m EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	94.2	79.6	3.6%	1.1%
FTSE Japan Index	85.5	n/a	5.3%	4.5%
Relative	+8.6	n/a	-1.8%	-3.4%

Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO2/\$m Sales)	Contribution to WACI	% of total Fund assets
Shin-Etsu Chemical Co Ltd	6.6	7.0%	1.5%
NipponSteel Corp	6.1	6.5%	0.4%
Chubu Electric PowerCoInc	5.1	5.4%	0.2%
Electric Power Development Co Ltd	3.7	3.9%	0.1%
MitsuiOSK LinesLtd	3.3	3.5%	0.2%

# North American Equity Fund

	Weighted Average Carbon Intensity (tCO2/£m revenue)	Carbon Footprint (tCO2e per \$m EVIC)	Green Revenues	Ties to Fossil Fuels
Fund	146.2	45.8	3.8%	3.6%
FTSE North America	140.1	n/a	5.2%	13.1%
Relative	+6.1	n/a	-1.3%	-10.5%

Top 5 Carbon Emitters	Weighted Average Carbon Intensity (tCO2/£m Sales)	Contribution to WACI	% of total Fund assets
NextEra Energy Inc	10.4	7.1%	0.4%
Southern Co/The	7.6	5.2%	0.2%
Duke Energy Corp	7.0	4.8%	0.2%
American Electric Power	•		
Co Inc	6.0	4.1%	0.1%
Linde PLC	5.2	3.6%	0.4%

Source: LGIM data is as at 31 March 2022 . LGIM use ISS for carbon data and Refinitiv for enterprise value and HSBC for green revenue data.

Fund benchmark for LGIM Japan Equity Fund is FTSE Japan and LGIM Emerging Markets Equity Fund is FTSE Emerging.



# Climate Risk Analysis

The Japan fund shows a mixed performance against the carbon metrics. With a higher WACI and lower ties to fossil fuels. Green revenues are also unfavourable at -1.8% relative to the benchmark.

The North America fund has a higher carbon impact but lower ties to fossil fuels compared to its benchmark.

Please note that the benchmark shown on this page is for illustration only and some of the differences between the fund and the benchmark shown may be due to differences in the underlying assets rather than a drift away from the benchmark. However we are investigating the anomalies with LGIM.

### BTC funds versus benchmark - tabular form.

	Weighted Average Carbon Intensity (tCO2/\$m Sales)*	Carbon Emissions (tCO2)/£m Invested*	% Of Portfolio owning clean technology solutions	% Of Portfolio With Ties to Fossil Fuels
UK Listed Equity Alpha	61	75	23	16
UK Benchmark	121	130	26	16
Relative	-61	-55	-3	0
Global Equity Alpha	95	88	29	2
Global Benchmark	159	97	39	7
Relative	-64	-9	-10	-5
IG Credit	75	71	7	2
IG Credit Benchmark	81	130	8	3
Relative	-6	-60	-1	-1

Source: \*BTC. WACI and Carbon emissions data as at 31 December 2022 and Clean technology and Ties to fossil fuels is as at 31 March 2022.

Fund benchmark for UK Listed Equity Alpha is FTSE All Share Index and for Global Equity Alpha is MSCI ACWI

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