



Valu-Trac Investment Management Limited

TCFD Portfolio Summary Report

Portfolio: VT Munro Smart-Beta Fund
As at: End December 2023

An Introduction to TCFD

INTRODUCTION

Valu-Trac Investment Management Limited (Valu-Trac) presents this Product Level TCFD report as at 29 December 2023. This is the first year that Valu-Trac has been required to produce TCFD reports for the funds that it manages.

This document fulfils the regulatory requirement under chapters 2.1 and 2.3 of the FCA's Environmental, Social and Governance ('ESG') sourcebook, which details the requirement for firms to prepare and publish a 'TCFD product report' containing climate-related disclosures consistent with the Task Force on Climate-Related Financial Disclosures ('TCFD') Recommendations and Recommended Disclosures.

VIML outsources portfolio management to third party investment managers for 93% of current AUM. Third-party investment managers are responsible for managing the assets and liabilities within a fund portfolio in accordance with each scheme's prospectus, which is the document constituting each scheme and describes to all stakeholders a scheme's objective, investment policies and permitted strategies in addition to applicable regulations.

The strategies and ESG metrics and targets (where applicable) of these schemes are at the discretion of the investment manager and not aligned with the strategy and purpose of Valu-Trac. Valu-Trac's own TCFD Entity Report can be found on our website.

THE REPORT

Valu-Trac uses a third-party supplier information system, Revolution, to provide the relevant statistical information used in the Product reports. The bulk of the underlying data used is supplied by S&P Trucost. The report uses globally accepted carbon metrics to show the potential impact of the fund on climate change.

Using a fund's assets and relevant weighting within the fund, at a set date, the system collects the underlying asset data and produces a report for the fund. There could, therefore, be data gaps should an underlying asset not have reported their own climate or financial data. It is expected that as the reporting of climate data becomes more widely embedded across industries and companies that these data gaps will reduce, but we do believe that the current data available is sufficient to be relied on.

The following pages show the detail required in the regulations.

A glossary of the technical terms is given on the page to which they relate.

WHERE TO START?

Whilst the impacts of risks relating to market performance, global macroeconomics, geopolitics, asset volatility and many other metrics, on investment funds, are clearly documented – the risks relating to climate change are not.

The following pages provide globally recommended metrics that provide insight into this nascent risk factor – in relation to carbon emissions

Key Terms used in this report;

Greenhouse Gases (GHG)	These are various atmospheric gases that absorb and emit infrared radiation and contribute to warming the planet.
Carbon Dioxide Equivalent (CO₂e)	This is a metric used to standardise the warming potential of the various GHGs and express their impact in terms of the amount of CO ₂ that would create the same amount of warming
Scope 1 emissions	this refers to all direct GHG emissions generated by a company or entity
Scope 2 emissions	this refers to all indirect GHG emissions from consumption of purchased electricity, heat or steam
Scope 3 emissions	this refers to other indirect emissions not covered in Scope 2 that occur in the value chain of the reporting company, including both upstream and downstream emissions. Scope 3 could include emissions related to the extraction and production of purchased raw materials, emissions derived from the company's logistics chain or generated from the use of a product or service sold by the firm, as examples. Scope 3 emissions are often outside the direct control of the company, however supply chain purchase decisions or product design considerations may impact on these emissions.

Every effort has been made to explain more technical terms within the following pages. We have attempted to cater to both users of the report seeking simple metrics, and those after more technically detailed insight.

The next page provides the most important metrics, and of those owned emissions and weighted average carbon intensity are the most pertinent. Following from that more technical reporting is provided for interested parties.

In the interests of report length, more complex metrics such as Scenario Analysis and Climate Value at Risk, while presented, have not been further contextualised. As these reports evolve with each edition, we will endeavour to address this.



Fund Summary Carbon Metrics

Item	Data type
General characteristics	
Reporting Period	29/12/2023
Name of the Fund	VT Munro Smart-Beta UK Fund
Issuer Coverage % of Market Value	97.68
Coverage of the Fund	
Number of Instruments Covered	182
Number of Instruments Not Covered	16
Main indicators of the Fund	
Absolute Scope 1 GHG emissions (tCO2e)	7,947,494
Absolute Scope 2 GHG emissions (tCO2e)	1,882,405
Absolute Scope 3 GHG emissions (tCO2e)	157,901,743
Total Absolute GHG emissions (tCO2e)	167,731,642
Owned Emissions	What is this?
$\sum_{(sum\ of)} \left(\frac{\text{current value of investment}}{\text{issuer's market capitalisation}} * \text{issuer's Scope (1,2 or 3 as appropriate) GHG emissions} \right)$	<p>These are the GHG emissions associated with the portfolio expressed in tons of CO2e calculated by considering underlying company's emissions proportional to the investor's ownership stake in that that company. Simply put this can be considered the volume of GHGs an investor could be considered responsible for based on their investments. This metric can be used to track changes in GHG emissions in a fund.</p>
Scope 1 GHG emissions (tCO2e)	3,675
Scope 2 GHG emissions (tCO2e)	956
Scope 3 GHG emissions (tCO2e)	60,434
Weighted Average Carbon Intensity (tCO2e per USD million revenue)	What is this?
$\sum_{(sum\ of)} \left(\frac{\text{current value of investment}}{\text{current portfolio value}} * \frac{\text{issuer's Scope 1 and Scope 2 GHG emissions}}{\text{issuer's \$M revenue}} \right)$	<p>This is the fund's exposure to carbon-intensive industries as measured by tons of GHG emissions per \$m of revenue. Rather than summing the emissions per unit of revenue by the ownership percentage of an investment, emissions per unit of revenue are added together based on the percentage that each asset makes up of the fund. This gives an indication of the fund's overall carbon efficiency, with a lower WACI indicating less GHG emissions per unit of revenue. This metric allows for the best comparison between portfolios. The downside is that it is sensitive to outliers and will favour fund's holding companies that have pricing power (leading to higher profit margins) such as technology firms.</p>
Weighted Average Carbon Intensity (WACI) (tCO2e/\$m)	102



Fund Summary Carbon Metrics

Item	Data type
Footprint and Intensity	
Carbon footprint (tCO2e per USD million invested)	What is this?
$\frac{\sum_{(\text{sum of})} \left(\frac{\text{current value of investment}}{\text{issuer's market capitalisation}} * \text{issuer's Scope (1,2 or 3 as appropriate) GHG emissions} \right)}{\text{current portfolio value (\$M)}}$	<p>This is the total carbon emissions for a fund divided by (normalised by) the market value of the fund to give the GHG emissions per \$ invested. This metric is fairly intuitive and can be used to compare portfolios to one another or to a chosen benchmark comparator. Potential downsides are this metric does not consider the carbon efficiency of investments and changes in the market capitalisation of underlying investments can be misinterpreted.</p>
Carbon Footprint Scope 1 (tCO2e/\$M)	67
Carbon Footprint Scope 2 (tCO2e/\$M)	17
Carbon Footprint Scope 3 (tCO2e/\$M)	1,104
Carbon intensity (tCO2e per USD million revenue)	What is this?
$\sum_{(\text{sum of})} \left(\frac{\text{current value of investment}}{\text{current portfolio value}} * \frac{\text{issuer's Scope (1, 2 or 3 as appropriate) GHG emissions}}{\text{issuer's \$M revenue}} \right)$	<p>This is a measure of the carbon efficiency of a fund. Owned Emissions are scaled by the owned revenues of the underlying investments with this figure expressed in tons CO2e per \$m of revenue. This metric can be used to compare portfolios to one another or to a chosen benchmark and importantly takes into account the carbon efficiency of the underlying investments i.e. how much GHG is emitted per unit of revenue generated.</p>
Carbon Intensity Scope 1 (tCO2e/\$M)	75
Carbon Intensity Scope 2 (tCO2e/\$M)	27
Carbon Intensity Scope 3 (tCO2e/\$M)	1,438
Implied Temperature Rise	
Net Temperature Overall	3-4°C
Alignment Gap Well Below 2°C (tCO2e)	43,841,602
Alignment Gap 2°C (tCO2e)	16,116,259
Alignment Gap 3°C (tCO2e)	-277,987
	What is this?
<p>An implied temperature rise indicates the expected increase in global temperature (in degrees Celsius) by 2100 that would occur if the projected GHG emissions associated with this fund were representative of the whole economy. The three alignment gaps (the excess amount of GHG emissions produced by the fund over the amount needed to limit temperature rise to the indicated level) are shown which correspond to globally recognised scenarios. Whilst the implied temperature rise provides an easily translatable measurement of a fund's alignment to global warming potential it must be noted that there are various approaches used and as such figures may not be comparable across providers.</p>	



Portfolio Assessment Summary Report (TCFD aligned)

powered by S&P Trucost and Confluence ECPI

Portfolio: VT Munro Smart-Beta UK Fund

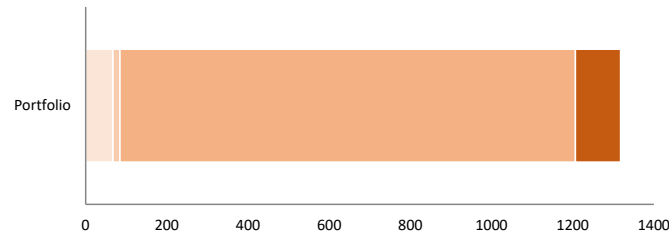
As of: 29/12/2023

Market Value: 47,425,921

CARBON PERFORMANCE

The analysis of Carbon Footprint (tCO2e/\$M Revenue) allows investors to quantify the GHG emissions apportioned to their portfolio and/or benchmark, presented as the amount of tCO2e apportioned to the investor. The lower, the better. Additionally, Carbon Intensity (tCO2e/\$M) allows comparison between different companies or portfolios, irrespective of size and geography.

Carbon Footprint (tCO2e/\$M)		Portfolio
Scope 1	67.16	67.16
Scope 2	17.47	17.47
Scope 3 Downstream	1,122.31	1,122.31
Scope 3 Upstream	111.23	111.23



Carbon Intensity (tCO2e/\$M Revenue)		Portfolio
Direct	89.45	89.45
First Tier Indirect	72.43	72.43
WACI	102.44	102.44



Market Value Covered in %		S&P Trucost
ECPI	98.11%	97.68%
Reported Vs. Estimated		96.50%

Top 10 Securities by Intensity	Total Intensity (tCO2e/\$M)
Rio Tinto PLC	545.42
National Grid PLC	329.48
Shell plc	154.73
BP PLC	149.95
Glencore PLC	105.64
Unilever PLC	27.34
GSK plc	24.47
British American Tobacco PLC	20.40
AstraZeneca PLC	9.93
HSBC Holdings PLC	7.60

Top 10 by Carbon Footprint	% Weight	Carbon Footprint Total (tCO2e/\$M)	Carbon Footprint				Absolute: GHG Direct (tCO2e)	Absolute: GHG First Tier Indirect (tCO2e)	Intensity: GHG Direct (tCO2e/\$M Revenue)	Intensity: GHG First Tier Indirect (tCO2e/\$M Revenue)
			Carbon Footprint Scope 1 (tCO2e/\$M)	Carbon Footprint Scope 2 (tCO2e/\$M)	Carbon Footprint Scope 3 Downstream (tCO2e/\$M)	Carbon Footprint Scope 3 Upstream (tCO2e/\$M)				
Shell plc	7.61%	260.65	225.30	35.34	3,796.28	270.58	51,015,435	29,722,672	133.79	77.95
Rio Tinto PLC	6.07%	274.31	206.41	67.90	4,518.22	115.29	22,800,026	13,292,283	410.41	239.27
British American Tobacco PLC	5.50%	5.60	2.74	2.86	3.31	41.75	380,289	3,687,893	11.12	107.84
AstraZeneca PLC	4.24%	2.04	1.14	0.90	4.60	13.00	259,404	944,966	5.85	21.31
Unilever PLC	4.14%	12.05	3.52	8.53	257.98	107.23	916,173	8,114,038	14.48	128.21
BP PLC	4.14%	269.87	254.11	15.76	2,601.43	441.11	33,860,083	42,101,592	141.24	175.61
Glencore PLC	3.16%	272.01	167.05	104.96	3,288.08	170.97	16,647,004	18,246,159	65.03	71.28
GSK plc	2.64%	11.16	8.00	3.16	60.47	27.74	639,599	808,796	17.64	22.30
National Grid PLC	2.35%	82.47	52.69	29.78	170.29	21.42	5,307,443	4,318,106	210.52	171.28

Definition of metrics

Absolute GHG (tCO2e)

Greenhouse Gas (GHG) emissions refer to gases with direct effects on climate change (carbon dioxide the most known, typically expressed in tons), generated from burning fossil fuels and production processes which are owned or controlled by the company.

Intensity GHG

This is expressed in metric tonnes of CO2e per million \$ revenue and measures the amount of carbon dioxide released into the atmosphere as result of the activities of particular individuals, organizations or communities, as proportion of their revenue.

Carbon Footprint

It reflects how much GHG is created per million invested as it takes the total GHG emissions divided by the fund's asset under management.

Data Coverage

Any data gap is likely to be as a result of climate or financial data not being reported for the underlying asset types by the given issuer. Lower data coverage results in reduced reliability for the proposed climate metrics.

Scope 1 Emissions

These are direct GHG emissions that occur from sources that are controlled or owned by an organization (e.g. emissions associated with fuel combustion in boilers, furnaces, vehicles).

Scope 2 Emissions

Are indirect GHG emissions associated with the purchase of electricity, steam, heat or cooling. Despite physically occurring at the facility where generated, they are accounted for in a firm's GHG inventory because they result from the firm's energy use.

Scope 3 Emissions

These encompass emissions not produced by the company itself and not the result of activities from assets owned/controlled, but those indirectly responsible for up/down the value chain (e.g. when buying, using or disposing of products from suppliers).

Scope 3 Emissions - Upstream

These are from the production of firm's products or services (e.g. purchased goods or services, fuel and energy related activities, transportation and distribution).

Scope 3 Emissions - Downstream

These relate to the use and disposal (e.g. processing or use of sold products, end-of-life treatment of products, operation of franchises or investments, including project finance) of a firm's products.



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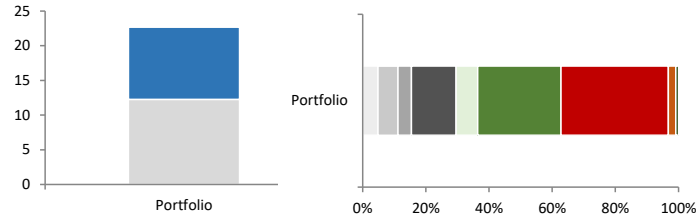
Market Value: 47,425,921

FOSSIL FUELS & STRANDED ASSETS

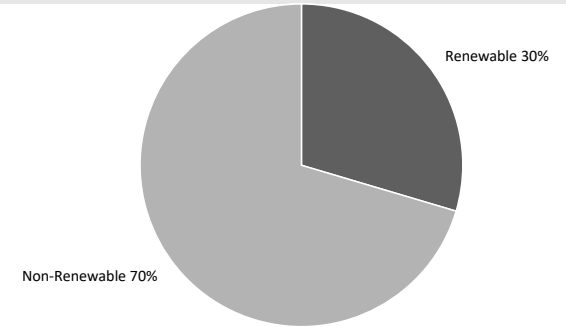
Future emissions from fossil fuel reserves tend to exceed the allowed carbon budget supposed to limit global warming to 2°C above pre-industrial levels. Below the exposure to carbon-related assets as well as holdings in companies that have disclosed proven and probable fossil fuel reserves.

Exposure to Fossil Fuels	Portfolio
% from Fossil Fuels	12.27%

Exposure to Coal Activities (powered by ECPI)	Portfolio
% from Metallurgical	N/A
% from Mining	10.40%
% from Thermal	N/A



Power Generation in GWh	Portfolio	
Renewable	7,587.58	29.59%
Biomass	1,239.75	4.83%
Geothermal	N/A	N/A
Hydroelectric	1,632.50	6.37%
Solar	1,083.59	4.23%
Wave and Tidal	N/A	N/A
Wind	3,631.74	14.16%
Non-Renewable	18,053.77	70.41%
Coal	1,742.97	6.80%
Landfill Gas	N/A	N/A
Liquid Natural Gas	N/A	N/A
Liquid Petroleum Gas	N/A	N/A
Natural Gas	6,770.38	26.40%
Nuclear	8,719.00	34.00%
Petroleum Oil	599.39	2.34%
Undefined Sources	222.02	0.87%



Top 5 by Coal Consumption	% Weight	Energy Consumption from Coal (GWh)	Fossil Fuel Exposure	Coal Gasification Exposure	Coal Liquefaction Exposure	Energy Cons Non-Renewable (GWh)	Energy Cons Renewable (GWh)	Energy Prod Non-Renewable (GWh)	Energy Prod Renewable (GWh)
Rio Tinto PLC	6.07%	36,404	✓	✓	✓	75,521	43,900	-	-
British American Tobacco PLC	5.50%	39	✓	✓	✓	1,650	310	-	-
Unilever PLC	4.14%	133	✓	✓	✓	2,911	3,056	-	-
Glencore PLC	3.16%	6,650	✓	✓	✓	31,150	N/A	-	N/A
GSK plc	2.64%	64	✓	✓	✓	2,153	313	-	-

Top 5 by Coal Mining Revenue	% Weight	% Coal Mining Revenue/ Total Revenue	Fossil Fuel Exposure	Coal Gasification Exposure	Coal Liquefaction Exposure	Metallurgical Coal Mining Revenue (\$M)	Coal Mining Revenue (\$M)	Thermal Coal Mining Revenue (\$M)	Undefined Coal Mining Revenue (\$M)
Glencore PLC	3.16%	8	✓	✓	✓	1,901	21,196	19,295	-

Definition of metrics

Power Generation

This reflects the share of renewable (solar, wind etc) vs non-renewable (coal, nuclear, petroleum etc) powered electricity generation compared to the total amount generated by the issuer and/or the assets invested in the portfolio.

Energy Consumption

This reflects the total amount of energy (e.g. electricity and heat) required for a given process and is measured typically in Gigawatt hour (GWh).

Fossil Fuel Exposure

These are assets involved in processes related to non-renewable energy sources (e.g. coal, natural gas etc) and non-renewable wastes. Fossil fuels can originate from plants, animals or industrial processes from other fuels (e.g. oil refinery).

Undefined Sources

Other or Undefined typically refers to power generation or consumption with unclear roots and/or belonging to other sectors with none specified techniques for extraction or production.

Coal Gasification Exposure

This refers to assets involved in processes in which coal is partially oxidised with air, oxygen, steam or carbon dioxide to form a fuel gas.

Coal Liquefaction Exposure

This refers to assets involved in processes aimed at converting coal into liquid hydrocarbons: liquid fuels and petrochemicals.



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GREEN TAXONOMY DISCLOSURES

Sustainable product classification and labelling system includes differentiation between products not promoted as sustainable and products promoted as responsible, which may have some sustainable investments. The sustainable products may be split
 - Aligned => products with sustainable characteristics, themes or objectives; high allocation to Taxonomy-aligned sustainable activities
 - Transitioning => products with sustainable characteristics, themes or objectives; low allocation to Taxonomy-aligned sustainable activities

	% Total Not Eligible	% Total Eligible	% Enabling	% Transitional
Portfolio	74.32%	13.86%	5.71%	8.14%

	% Agriculture	% Construction and Real Estate Activities	% Electricity, Gas, Steam and A/C Supply	% Forestry	% ICT	% Manufacturing	% Transportation and Storage	% Water, Sewerage, Waste and Remediation	% Multiple Sources
Portfolio	0.00%	3.96%	3.55%	0.00%	3.55%	1.27%	0.50%	0.08%	0.95%

Top 5 by Weight	% Weight								
HSBC Holdings PLC	9.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Shell plc	7.61%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Rio Tinto PLC	6.07%	0.00%	0.00%	0.00%	0.00%	0.23%	0.00%	0.00%	0.00%
British American Tobacco PLC	5.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AstraZeneca PLC	4.24%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Definition of metrics

Eligible Vs. Non-Eligible

Total percentage of revenues mapped (or not mapped, respectively) to EU taxonomy aligned activities.

Enabling Vs. Transitional

Enabling activities indirectly mitigate the effects of climate change and improve the emissions intensity of other activities. Transitional activities directly mitigate or contribute to climate change mitigation.



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TOWARDS NET-ZERO

The international Paris Agreement on climate change mentions 3 long-term goals: the first two focus on climate mitigation and adaptation, while the third is "to make all financial flows consistent with a pathway towards low-emissions, climate-resilient development.". This recognizes the key role that financial institutions play in realizing the Paris Climate Agreement - including the need to achieve net-zero emissions by mid-century and reduce emissions 50% by 2030. An Implied Net Temperature can be also derived as the weighted average net temperature increase across different methodologies.

	2°C Aligned Intensity Adjusted Profit (tCO2e/\$M)	Alignment Gap Well Below 2°C (tCO2e)	Alignment Gap 2°C (tCO2e)	Alignment Gap 3°C (tCO2e)	Alignment Gap 4°C (tCO2e)	Alignment Gap 5°C (tCO2e)	Net Temperature (Overall) 3-4°C	Net Temperature (GEVA) 3-4°C	Net Temperature (SDA) 2-2.7°C
Portfolio	641.30	43,841,602	16,116,259	-277,987	-4,062,260	-7,079,716			

Top 5 by Weight	% Weight	Alignment Gap Well Below 2°C (tCO2e)	Alignment Gap 2°C (tCO2e)	Alignment Gap 3°C (tCO2e)	Alignment Gap 4°C (tCO2e)	Alignment Gap 5°C (tCO2e)	Type	Methodology	Source of Forward Looking Data
HSBC Holdings PLC	9.03%	-222,259 #	-1,674,922	-2,540,495	-2,800,882	-2,956,154 #	<1.5°C	GEVA	Company target
Shell plc	7.61%	341,211,324	189,801,793	99,103,331	71,780,435	55,440,951	>5°C	GEVA	Company target
Rio Tinto PLC	6.07%	48,252,883	-49,779,504	-108,792,312	-126,592,764	-137,264,638 #	<1.5°C	GEVA	Company target
British American Tobacco PLC	5.50%	3,336,109	1,287,762	52,683	-320,031	-543,596 #	2-3°C	GEVA	Company target
AstraZeneca PLC	4.24%	2,615,764	1,321,700	539,235	303,088	160,206	<1.5°C	GEVA	Company target

Definition of metrics

Type	Alignment Gap	Methodology and Source of Forward Looking Data
It summarizes the scenario alignment of a company based on assessing a variety of available scenario markers using either the SDA or GEVA models. Possible values include <2°C, 2-3°C, 3-4°C, 4-5°C, and >5°C.	It indicates the difference between a company's projected emissions pathway and the required pathway to reach n°C alignment, measured in tCO2e. Negative values indicate a company's transition pathway aligned to outcome.	They dictate whether the GHG Emissions per unit of Value Add approach (GEVA) or Sectoral Decarbonization Approach (SDA) has been used to assess scenario alignment, and the source of forward looking data used in the assessment. - GEVA => the greenhouse Gas Emissions per unit of Value Added equates a carbon budget to total GDP and a company's share of emissions is determined by its gross profit - SDA => the Sectoral Decarbonization Approach translates greenhouse gas emissions targets into benchmarks against which the performance of individual companies can be compared.



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SCENARIO ANALYSIS

The assessment of physical risks is key as they also (or mostly) result from climate change. Companies are scored 1-100 for each of the key hazard risk types (coldwave, heatwave, hurricane, floods, wildfire, water stress etc). The assessment is made available across different climate change scenarios (low, medium, high) and future reference years (2030, 2050).

Sensitivity	Low			Sensitivity	Medium			Sensitivity	High		
	2020	2030	2050		2020	2030	2050		2020	2030	2050
Composite	36.58	37.72	39.95	Composite	33.05	33.88	35.77	Composite	24.37	23.96	24.41
Coldwave	79.61	76.72	68.50	Colwave	60.39	54.09	41.92	Colwave	37.16	30.18	18.27
Flood	43.66	44.18	48.04	Flood	39.78	41.84	48.21	Flood	2.94	2.67	2.72
Heatwave	8.88	11.33	13.46	Heatwave	9.18	11.01	15.52	Heatwave	9.43	12.94	22.32
Hurricane	3.02	3.03	2.92	Hurricane	3.02	3.03	2.90	Hurricane	N/A	N/A	N/A
Sea Level Rise	1.04	1.07	1.26	Sea Level Rise	1.04	1.07	1.26	Sea Level Rise	3.75	3.83	6.59
Water Stress	26.88	27.49	25.71	Water Stress	26.88	27.49	25.71	Water Stress	53.67	53.58	52.51
Wildfire	11.15	13.84	20.08	Wildfire	11.35	13.90	19.21	Wildfire	14.36	14.50	14.14

Top 10 by Weight	% Weight	Sensitivity Composite Score 2020 (High Scenario)	Sensitivity Composite Score 2030 (High Scenario)	Trend	Coldwave Score 2030 (High Scenario)	Flood Score 2030 (High Scenario)	Heatwave Score 2030 (High Scenario)	Sea Level Rise Score 2030 (High Scenario)	Water Stress Score 2030 (High Scenario)	Wildfire Score 2030 (High Scenario)
HSBC Holdings PLC	9.03%	3.00	3.00	—	30.00	3.00	16.00	5.00	58.00	10.00
Shell plc	7.61%	48.00	50.00	⊗	31.00	2.00	14.00	3.00	83.00	54.00
Rio Tinto PLC	6.07%	55.00	55.00	—	27.00	2.00	13.00	2.00	37.00	26.00
British American Tobacco PLC	5.50%	7.00	7.00	—	27.00	5.00	19.00	1.00	41.00	12.00
AstraZeneca PLC	4.24%	18.00	17.00	⊕	28.00	2.00	12.00	3.00	59.00	11.00
Unilever PLC	4.14%	23.00	21.00	⊕	29.00	4.00	14.00	4.00	45.00	7.00
BP PLC	4.14%	38.00	39.00	⊗	32.00	2.00	11.00	4.00	57.00	20.00
Glencore PLC	3.16%	35.00	33.00	⊕	24.00	2.00	17.00	2.00	41.00	17.00
GSK plc	2.64%	18.00	17.00	⊕	33.00	4.00	11.00	5.00	50.00	7.00
National Grid PLC	2.35%	65.00	66.00	⊗	33.00	2.00	12.00	1.00	42.00	37.00

Definition of metrics

Low Climate Change Scenario (RCP 2.6)

Aggressive mitigation actions to halve emissions by 2050. This scenario is likely to result in warming of less than 2°C by 2100.

Medium Climate Change Scenario (RCP 4.5)

Strong mitigation actions to reduce emissions to half of current levels by 2080. This scenario is more likely than not to result in warming in excess of 2°C by 2100.

High Climate Change Scenario (RCP 8.5)

Continuation of business as usual with emissions at current rates. This scenario is expected to result in warming in excess of 4°C by 2100.

Coldwave

Sensitivity to the occurrence of periods of extreme cold relative to local climatic conditions, measures based on the Excess Cold Factor.

Flood

Sensitivity to flood risk exposure within a river basin.

Heatwave

Sensitivity to the occurrence of periods of extreme heat relative to local climatic conditions, measures based on the Excess Heat Factor.

Hurricane

Sensitivity representing the historical incidence and severity or strength of hurricane, typhoon or cyclone activity at a given location, weighted in favour of recent events.

Sea Level Rise

Sensitivity to coastal risk exposure within a river basin.

Water Stress

Sensitivity to projected future ratio of water withdrawals to total renewable water supply in a given area.

Wildfire

Sensitivity to risk of wildfire occurrence by location based modelled area of burnt vegetation.



Climate VaR and Stress Testing

powered by S&P Trucost and Confluence Risk Engine

Portfolio: VT Munro Smart-Beta UK Fund

29/12/2023

Physical Risks Monitoring

The assessment of physical risks is key as they also (or mostly) result from climate change. Companies are scored 1-100 for each of the key hazard risk types (coldwave, heatwave, floods, wildfire, water stress etc).

The assessment is made available across different climate change scenarios (low, medium, high) and future reference years (2030, 2050).

Generally speaking, a score up to 30 indicates a low physical risk, 30-70 shows a moderate risk exposure, whereas a 70+ score reflects a high exposure to the correspondent physical risk hazard. This applies to both the composite score and the sensitivity weight-adjusted scores and for the underlying individual hazard-level scores.

	Low		Medium		High	
Sensitivity Score	2030	2050	2030	2050	2030	2050
Composite	37.72	39.95	33.88	35.77	23.96	24.41
Coldwave	76.72	68.50	54.09	41.92	30.18	18.27
Flood	44.18	48.04	41.84	48.21	2.67	2.72
Heatwave	11.33	13.46	11.01	15.52	12.94	22.32
Sea Level Rise	1.07	1.26	1.07	1.26	3.83	6.59
Water Stress	27.49	25.71	27.49	25.71	53.58	52.51
Wildfire	13.84	20.08	13.90	19.21	14.50	14.14
Sensitivity Score	2030	2050	2030	2050	2030	2050
Best Scenario	1.07	1.26	1.07	1.26	2.67	2.72
Average Scenario	29.11	29.51	24.90	25.30	19.62	19.43
Worst Scenario	76.72	68.50	54.09	48.21	53.58	52.51

Definition of metrics

Low Climate Change Scenario (RCP 2.6)

Aggressive mitigation actions to halve emissions by 2050. This scenario is likely to result in warming of less than 2°C by 2100.

Medium Climate Change Scenario (RCP 4.5)

Strong mitigation actions to reduce emissions to half of current levels by 2080. This scenario is more likely than not to result in warming in excess of 2°C by 2100.

High Climate Change Scenario (RCP 8.5)

Continuation of business as usual with emissions at current rates. This scenario is expected to result in warming in excess of 4°C by 2100.

Coldwave

Sensitivity to the occurrence of periods of extreme cold relative to local climatic conditions, measures based on the Excess Cold Factor.

Flood

Sensitivity to flood risk exposure within a river basin.

Heatwave

Sensitivity to the occurrence of periods of extreme heat relative to local climatic conditions, measures based on the Excess Heat Factor.

Sea Level Rise

Sensitivity to coastal risk exposure within a river basin.

Water Stress

Sensitivity to projected future ratio of water withdrawals to total renewable water supply in a given area.

Wildfire

Sensitivity to risk of wildfire occurrence by location based modelled area of burnt vegetation.

Transition Risks Monitoring

The assessment of transition risks is strongly connected to carbon earnings at risk. Likewise for physical risks, this is made available across different carbon price change scenarios (low, medium, high) and future reference years (2030, 2050).

Generally speaking, 10% carbon earning risk (either EBIT or EBITDA based) may be considered the significant threshold above which clients may decide how much incremental exposure they would like to take in terms of transition risks.

Earnings at Risk	Low		Medium		High	
	2030	2050	2030	2050	2030	2050
Reduction of EBIT Margin	-0.30	-0.55	-0.82	-2.05	-1.15	-2.06
Reduction of EBITDA Margin	-0.28	-0.51	-0.82	-2.03	-1.12	-2.00
Unpriced Carbon Cost adj. EBIT	29.64	29.25	29.11	27.88	28.77	27.88
Unpriced Carbon Cost adj. EBITDA	36.40	36.16	35.86	34.67	35.56	34.67
Unpriced Carbon Cost % EBIT	2.14	3.85	5.94	14.93	8.66	14.82
Unpriced Carbon Cost % EBITDA	4.74	7.75	11.95	26.15	16.00	26.29

Definition of metrics

Reduction of EBIT/EBITDA margins

It reflects the implied change in earnings margins due to unpriced carbon cost under the specified carbon price scenario.

It is expressed in % point changes to the company's original EBIT or EBITDA margin and it represents the implementation of policies that are considered sufficient to reduce greenhouse gas emissions in line with the Paris

Agreement, whose goal is limiting climate change to 2°C by 2100 (high scenario), or sooner than 2100 but with action delayed in the short term (medium scenario), or rather fully implemented in the short term (low).

Unpriced carbon cost adjusted EBIT/EBITDA margin

It reflects the earnings margin adjusted by unpriced carbon cost under the correspondent carbon price scenario and time horizon.

Unpriced carbon cost as % of EBIT/EBITDA

It reflects the unpriced carbon cost as % of earnings under the correspondent carbon price scenario and time horizon.

Climate Adjusted Market Risk Monitoring

The Climate Adjusted Market Risk provides forecasts of the potential climate-stressed market risk valuation. The assessment takes into consideration the market risk as well as the forward looking downsides associated to physical and transition risks.

Confluence have decided to approach Climate Adjusted VaR = Market Risk + β * Physical Risk + Transition Risk.

	1 Day	1 Week	1 Month	3 Months	1 Year	Climate VaR Projection 1 Year	Climate VaR Projection 1 Month
Market Risk Only	3.05	6.83	13.66	23.63	45.22	45.22	13.66
+ Low Physical Risk	0.61	1.37	2.74	4.74	9.71	50.20	15.06
+ Medium Physical Risk	0.55	1.23	2.45	4.25	8.71	49.69	14.91
+ High Physical Risk	0.38	0.85	1.70	2.95	6.05	48.32	14.53
+ Best Scenario	0.03	0.06	0.12	0.20	0.42	45.43	13.72
+ Average Scenario	0.39	0.87	1.74	3.01	6.16	48.38	14.55
+ Worst Scenario	0.93	2.08	4.15	7.19	14.73	52.78	15.79
+ Transition Risk (based on EBIT)	-0.02	-0.04	-0.08	-0.14	-0.29	45.51	13.74
+ Transition Risk (based on EBITDA)	-0.02	-0.04	-0.08	-0.14	-0.28	45.50	13.73
+ EIOPA Climate Stress Test 2022	-1.23	-2.76	-5.52	-9.56	-19.60	55.27	16.49
TOTAL Climate Adjusted Market Risk (A+coeff*B+C)		---	---	---	---	53.06	15.86

Definition of metrics

Market Risk (A)

It represent the Value at Risk typically computed for Risk or Compliance purposes and usually regulated under the Ucits/AIFMD/SEC frameworks, thus based on historical simulation with full repricing.

β (coeff)

This is the average change (rebased according to the stress test in use) generated when shocking the portfolio to a % variation of an index reflecting specific ESG best-in-class strategy. See next section.

e.g. if the stress test shocks the ESG strategy by 10% and the portfolio reacts with 10%, then $\beta=1$ as the portfolio reflects a perfect correlation to the shocked ESG index.

By shocking various ESG strategies and averaging the β results, this would allow users to estimate the potential (de)correlation of the portfolio to any ESG strategy and thus recalibrate the impact of the physical risks accordingly.

Physical Risk (B)

Physical risks are risks to the company that arise from the physical effects of climate change. They include:

- Acute physical risks => they arise from particular events (especially weather-related such as storms, floods, fires or heatwaves) that may damage production facilities and disrupt value chains;
- Chronic Physical risks => they arise from longer-term changes in the climate, such as temperature changes, rising sea levels, reduced water availability, biodiversity loss and changes in land or soil productivity.

By default considers the most conservative approach and makes use of the average of the worst risks across all the 3 scenarios (low - medium - high) and reference year. Stats different from the worst may also be considered.

Transition Risk (C)

Transition risks are instead risks to the company that arise from the transition to a low carbon and climate-resilient economy. They include:

- Policy risks => as a result of energy efficiency requirements, carbon-pricing mechanisms (which increase fossil fuels price), or policies to encourage sustainable land use;
 - Legal risks => the risk of litigation for failing to avoid or minimise adverse impacts on the climate, or failing to adapt to climate change;
 - Technology risks => e.g. if a technology with a less damaging impact on the climate replaces a technology that is more damaging to the climate;
 - Market risks => e.g. if the choices of consumers and business customers shift towards products and services that are less damaging to the climate;
 - Reputational risks => difficulty in attracting or retaining customers, employees, business partners and investors if a company has reputation for damaging the climate.
- By default considers the average of Reduction of EBITDA Margin across all the 3 scenarios (low - medium - high).

Hybrid Approach - Custom Modelling

The Hybrid Approach allows to additionally take in consideration also the ex-ante (de)correlation of the portfolio investments against a number of specific indices built based on ESG environmental and/or climate driven strategies.

	Stress Test Value Change %	Shock %	Ex-Ante Beta	Coeff	Min Coeff	Max Coeff
ECPI Global Clean Energy -10%	-4.64	-10	0.4641	0.5130	0.2775	0.7503
ECPI Global Climate Change -10%	-6.44	-10	0.6435			
ECPI Global ESG Blue Economy -10%	-6.38	-10	0.6376			
ECPI Circular Economy Leaders -10%	-5.04	-10	0.5044			
ECPI Global Blue Gold GD Equity -10%	-5.16	-10	0.5164			
ECPI Global Carbon Liquid -10%	-7.50	-10	0.7503			
ECPI Global Eco Real Estate & Building Liquid -10%	-3.79	-10	0.3789			
ECPI Global ESG Hydrogen Economy -10%	-4.66	-10	0.4656			
ECPI Global Renewable Energy Liquid -10%	-4.92	-10	0.4917			
ECPI China Consumption Tradable Equity -10%	-2.77	-10	0.2775			