

HSBC OpenFunds

World Selection - Dynamic Portfolio

Task Force on Climate-related Financial Disclosures (TCFD)
31 December 2024

Introduction

This document is intended to provide information about the climate impact and risks of the assets held by the fund. Its content is based on the guidance of the Task Force on Climate-related Financial Disclosures (TCFD)¹ and it complies with the Financial Conduct Authority's (FCA) Environmental, Social and Governance (ESG) sourcebook.

This document uses data as at 31 December 2024, unless otherwise stated. It will be updated at least annually.

Asset Class	Multi Asset
Investment Region	Global
Fund Base Currency	GBP
Fund Size (GBPm)	2,198

Carbon Metrics

Carbon metrics are used to track the carbon emissions associated with a financial investment. It is necessary for carbon emissions to reduce to mitigate global warming. The carbon emissions released by an issuer are the responsibility of the issuer and its investors. Reducing carbon emissions requires action, including issuer development in clean technologies, simplification of supply chains, reuse and innovation of goods, and preservation of forests and other ecosystems. The carbon metrics prescribed by the rules of the FCA can be used to monitor the quantity of carbon emissions relative to the investment, and are published for this fund, where applicable.

FCA prescribed carbon metrics are:

- ◆ Weighted Average Carbon Intensity
- ◆ Total Carbon Footprint
- ◆ Total Carbon Emissions

Weighted Average Carbon Intensity

This product does not have a benchmark.

We have provided current and prior year data. This can be used for comparison purposes.

Weighted Average Carbon Intensity Refer to complete formula in the glossary	Scope 1 and 2			Scope 3 (upstream)
	Corporates Scope 1 & 2	Sovereigns Scope 1 ²	Combined	Corporates Scope 3
2024 ³				
Fund	111.8	217.6	119.9	92.8
Coverage	95%	90%	87%	95%
2023 ³				
Fund	Not reported	Not reported	189.1	124.8
Coverage	Not reported	Not reported	88%	97%
2022 ³				
Fund	Not reported	Not reported	223.4	Not reported
Coverage	Not reported	Not reported	89%	Not reported

(tonnes carbon dioxide equivalent (tCO₂e) / USD million)

1. <https://www.fsb-tcfd.org/>

2. Sovereigns scope 1 carbon intensity is the production emissions of a country, defined as the domestic GHG emissions from sources located within the country territory excluding those arising from land use, land-use change and forestry activity (LULUCF), divided by the PPP-adjusted GDP. This is also reported as a combined figure with corporate carbon intensity scope 1 and 2. Sovereign WACI is not intended to cover supranational and sub-sovereigns (such as municipal or regional bonds) due to data and methodology challenges.

3. This year, we are reporting corporate and sovereign figures separately for greater clarity and transparency. This is not reported for previous years, as data was reported as a combined figure only.

◆ **How should WACI metric be interpreted?**

Carbon intensity measures the quantity of carbon emissions per million dollars of economic output. Economic output is measured using revenues for corporates and Global Domestic Product purchasing power parity adjusted (GDP PPP) for sovereigns, both in line with their respective methodology as per the Partnership for Carbon Accounting Financials (PCAF). Thus, it is a measure of the environmental efficiency of an issuer. Weighted average carbon intensity (WACI) is the sum of all issuer carbon intensity, weighted by the allocation to that issuer. This is shown as tonnes of CO₂ equivalent per million USD of economic output (tCO₂e/USD m). For corporate issuers, WACI measures the covered portion of the portfolio’s exposure to carbon-intensive companies. For sovereign issuers, WACI measures the covered portion of the portfolio’s exposure to carbon-intensive economies.

Metric Application



DO

Compare funds that have similar allocation of holdings across sector and geography



DO NOT

Compare funds that have different allocation of holdings across sector and geography



Total Carbon Footprint

This product does not have a benchmark.

We have provided current and prior year data. This can be used for comparison purposes. Our data provider for the company values has changed. We have implemented a comprehensive mapping exercise that has improved the linkage between carbon data and holding records. Further, carbon footprint for sovereigns has not been included in the calculation this year. To aid comparison, our results for 2023 have been recalculated using our updated data sources and may not match what was historically published.

Total Carbon Footprint Refer to complete formula in the glossary	Corporates ¹	
	Scope 1 & 2	Scope 3 (upstream)
2024		
Fund	43.5	38.3
Coverage	94%	94%
2023		
Fund	53.5	59.8
Coverage	96%	96%
2022 ²		
Fund	88.7	Not reported
Coverage	98%	Not reported

(tonnes carbon dioxide equivalent (tCO₂e) / USD million)

◆ **How should this metric be interpreted?**

Carbon footprint measures the quantity of carbon emissions financed by our investment divided by the AuM (Assets under Management) invested and is also referred to as the financed emission intensity or emission intensity. It indicates the climate impact that an investor is responsible for per USD 1 million of financing. It is a normalised metric; the carbon footprint of different portfolios and benchmarks can be compared regardless of the size. The carbon footprint can fluctuate without a change in carbon emissions due to movements in the issuer value. Understanding the change in investment or issuer versus the change in carbon emissions is an important step in monitoring the environmental progress of the investment. The Total Carbon Footprint is the sum of all issuer carbon emissions financed by our investment, divided by the value of the portfolio.

Metric Application



DO

Use to assess total emissions of assets managed, relative to portfolio size



DO NOT

Consider short-term fluctuations an indicator of environmental impact, or change in carbon emissions



1. Scope 1, 2 and Scope 3 emissions include emissions from corporate holdings only. Sovereign’s emissions not included for scope 1, 2 and scope 3.
 2. For 2022 only, Total carbon footprint emissions included Sovereigns Scope 1 as well as Corporates Scope 1 and 2.

Total Carbon Emissions

A reference benchmark is not applicable for Total Carbon Emissions as a fund and its benchmark can be vastly different in size, regardless of whether the product has a sustainable benchmark. We have also provided current and prior year data. This can be used for comparison purposes. Our data provider for the company values and the calculation process has changed. We have implemented a comprehensive mapping exercise that has improved the linkage between carbon data and holding records. Further, total carbon emissions for sovereigns have not been included in the calculation this year. To aid comparison, our results for 2023 have been recalculated using our updated data sources and may not match what was historically published.



Total Carbon Emissions Refer to complete formula in the glossary	Corporates ¹	
	Scope 1 & 2	Scope 3 (upstream)
2024		
Fund	93,547.1	82,386.7
Coverage	94%	94%
PCAF Data Quality Score	2.1	2.2
2023		
Fund	88,112.7	98,603.3
Coverage	96%	96%
2022 ²		
Fund	133,443.8	Not reported
Coverage	98%	Not reported

(tonnes carbon dioxide equivalent (tCO₂e))

◆ How should this metric be interpreted?

Total carbon emissions measure how financial institutions should account for the emissions attributed to their investments and is often referred to as 'financed emissions'. It is an absolute figure, dependent on size of the assets, and not a ratio like weighted average carbon intensity or carbon footprint. The total carbon emission of a portfolio is the sum of the financed emissions in the companies that the portfolio invests in, defined as the sum of the following: issuer's carbon emissions in tCO₂e multiplied by current value of investment divided by issuer's company value. It represents tons of emissions financed by eligible and covered AuM (Assets under Management). It can be useful for providing a perspective of the amount of financing our AuM is contributing towards the remaining total global carbon budget. The remaining total carbon budget to limit global warming to 1.5° C and avoid any material long term effects from climate change is 500 billion tonnes of carbon emissions.³

Metric Application

-  **DO**
 Use as a real-world indicator of contribution to global carbon budget
-  **DO NOT**
 Compare with any funds

Metric monitoring

When assessing climate risk through carbon metrics, it is important to dissect changes in the metric due to actual climate change mitigation, or the reduction in carbon emissions, versus changes in the economic investment.

Metric	Metric Outcome	Investment Movement	Investment movement direction	Environmental Outcome
Weighted Average Carbon Intensity	↓	Issuer economic output (USD m)	↑	Possible carbon emission reduction
Total Carbon Footprint	↓	Issuer value	↑	Inconclusive
Total Carbon Emissions	↓	Portfolio size	↓	Inconclusive

Geographical exposure – Sovereign investment

This fund has allocation to sovereign debt and therefore it is useful to show the geographical allocation and Weighted Average Carbon Intensity for those assets separately.

Source: GHG Protocol

	North America	Latin America	Europe	Middle East	Africa	Asia Pacific	Total
Weight %	3.2%	1.0%	3.0%	0.0%	0.3%	0.5%	8.0%
Weighted Average Carbon Intensity (tCO ₂ e/USD m)	7.2	2.0	3.4	0.0	1.2	1.3	15.2

1. Scope 1,2 and Scope 3 emissions include emissions from corporate holdings only. Sovereign emissions are not included for scope 1,2 and scope 3.
 2. For 2022 only, Total carbon emissions included Sovereigns Scope 1 as well as Corporates Scope 1 and 2.
 3. [FCCC/PA/CMA/2022/4 \(unfccc.int\)](https://www.unfccc.int)

Impact of Climate Change – Scenario Analysis:

Climate Change Scenario Analysis aims to quantify whether, and by how much, climate change may affect future fund performance. Within scenario analysis, there are two lenses applied by which climate change will have an impact, transition and physical. Transition risks are the regulatory, geopolitical and commercial impacts climate change will have and physical is related to the real-world impacts such as rising global temperatures, changing weather patterns and increased instances of extreme climate-related disasters. Given the uncertainty around the extent to which climate change will impact the world, there is no one uniform approach to modelling climate change impact. As such, we apply two transition and three physical scenario outcomes within our framework.

How is climate change likely to impact the underlying assets of this product under ‘orderly transition’, ‘disorderly transition’ and ‘hothouse world’ scenarios?

- ◆ **‘Orderly transition’:** Under an ‘orderly transition’ scenario, we expect a tightening of national climate policies that will increase the costs for companies engaging in high-emitting activities while subsidising activities and technology that accelerate transition to a low emission economy. Assets that can capitalise on subsidies and limit their emission costs will increase in value. Under this scenario, there is a limit in global warming and assets experience minimal cost from physical climate change. The impact on this product under this scenario is shown by the **1.5°C transition scenario below**.
- ◆ **‘Disorderly transition’:** Under a ‘disorderly transition’ scenario, we expect current national climate policies to continue for the next 5 years before an aggressive tightening. The disorder from the tightening disrupts supply chains, strands assets and leads to significant costs for companies that are not able to adjust quickly. The abrupt changes will lead to a deterioration in assets across sectors and the delayed policies will come too late to offset some of the costs from physical climate risk weather events, adding further to company costs and decreasing asset value. However, as temperature is only limited to 2°C, **transition impacted is muted relative to the 1.5°C orderly scenario, while the physical impacts are higher**. The impact on this product under this scenario is shown by the **2.0°C disorderly transition scenario below**.
- ◆ **‘Hot house world’:** Under a ‘hot house world’ scenario, we expect emissions and temperatures to rise throughout the end of the century leading to economic loss and decline in asset values.
- ◆ The best case ‘hot house’ scenario limits global temperature rise to 3.0°C, if every country delivers on their nationally determined contributions, climate targets established through the United Nation’s Paris Agreement. **The impact on this product under this scenario is shown by the 3.0°C ‘Hot House 1’ scenario below.**
- ◆ **Under the current global trajectory, temperature rise are expected to exceed 3.0°C if only currently implemented policies are preserved and there is no transition. The impact on this product under this scenario is shown by the +3.0°C ‘Hot House 2’ scenario below.**
- ◆ Under an extreme scenario, where national security is prioritised, public and private sector favour existing carbon intensive energy sources and carbon emissions rise consistently, leading to increasing temperatures of greater than 4.0°C. **The impact on this product under this scenario is shown by the +4.0°C ‘Hot House 3’ scenario below.**

It is important to note that these scenarios represent a range of end of the century projected world pathways, among a very large number of climate scenarios and potential real outcomes. Measuring the risks and opportunities under these scenarios is only a guide to understand the likely sensitivity of investments and should not be interpreted as a prediction of future investment value.



MSCI Climate Value-at-Risk (cVaR)

We use the MSCI cVaR model to quantify the effects of climate change on our products under each of the above scenarios. The model estimates the present value of future transition cost and opportunity of each corporate company through to 2050 - and physical cost through to 2100 across each of the above scenarios. The modelled costs and opportunity are expressed as a % of equity or debt depending on the type of instrument, weighted by holdings and aggregated for the fund.

Debt investment:

Products with debt investment have lower cVaR - values because the climate shock must exceed that of the company equity in order to impact the debt investment. Debt investment can still have material exposure to climate change and the potential credit spreads and pricing impacts are not yet picked up this model.

Climate Change Mitigation

Fund	Net Zero Targets			No climate policy	
	1.5° C	2.0° C	3.0° C	Current scenario +3.0° C	No action +4.0° C
Transition Opportunity	1	0	0	-	-
Transition Risk	-4	-2	-1	-	-

*Scores are explained in the scale at bottom of the page.

Transition scenarios begin by limiting temperatures to a 3.0° C rise and increase in impact as the temperature target lowers.

◆ **Transition Opportunity:** MSCI refers to this model component as Technology Opportunity Climate Value-at-Risk. This component represents the potential upside for companies due to potential profits from a low carbon transition of the global economy. MSCI uses both low carbon revenues and low carbon technology patents as inputs to estimate how a company may benefit from a low carbon transition. As this is only a model, it is indicative of opportunity and not absolute profits.

◆ **Transition Risk:** MSCI refers to this model component as Policy Risk Climate Value-at-Risk. This component represents the potential costs associated with reducing a company's scope 1, scope 2 and scope 3 emissions to achieve decarbonisation assuming different climate scenario carbon price pathways.

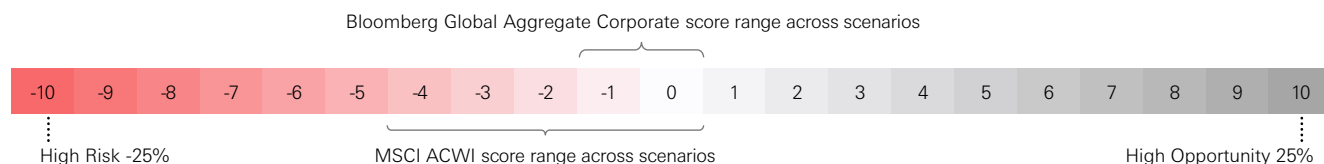
Climate Change Impact

Fund	Net Zero Targets			No climate policy	
	1.5° C	2.0° C	3.0° C	Current scenario +3.0° C	No action +4.0° C
Physical Impact	-1	-1			

Physical risk impacts are evident in each scenario, but rise significantly as the temperature target rises.

◆ **Physical impact:** MSCI's other model component is their Physical Climate Value-at-Risk computation, which is a negative estimate of a company's long-term projected costs from acute and chronic physical climate changes, like storms and drought, on current company assets and business activity.

***Score:** HSBC Asset Management translates each MSCI Climate Value at Risk percentage to a score to show the indicative impact rather than the precise percentage, given some of the uncertainty of the model projections (for example the ability of companies to offset projected carbon related costs with future profitability), the results have been expressed as a score where the MSCI cVaR percentage has been translated to a score range to show the indicative impact rather than the precise percentage. The scores range from -10 to 10 based on a cVaR distribution of -25% to 25%. Negative scores show the projected associated costs, whereas positive scores relate to opportunities. Absolute 25% was chosen as the score bounds as majority of our test sample were observed to be within this range. We will look to further develop both our usage and coverage of assets as the model methodology is enhanced.



Impact of Climate Change – Scenario Analysis: Continued

Interpreting the results:

In general, funds with higher carbon emissions, and allocation to carbon intensive sectors will have higher transitions costs alongside possible opportunities. These costs are likely to increase as governments approve laws to support climate mitigation, opportunities will also increase with rising demand for low-carbon products, services and technologies. Sustainable funds that target climate change mitigation technological solutions will have the highest opportunity. Opportunity and cost transition models are highly dependent on national policy and regulatory changes in every market. Something that is currently unknown. Physical risks are spread across all sectors and increase significantly as the value of the assets increases.

Model	Model Outcome	Factor	Factor direction
Opportunity	↑	Climate tech	↑
Risk (Transition)	↑	Carbon emissions	↑
Risk (Physical)	↑	Asset value	↑

◆ **Climate Change Mitigation:** Transition risks are a result of direct and indirect costs of climate regulations imposed on companies, which imposes compliance costs and lead to changes in market demand and input costs for companies' products and services. Transition opportunities emerge from additional profits arising through the development of new products, services and technologies that meet the needs of transitioning to a low-carbon economy.

◆ **Climate Change:** Physical risks impact businesses across all sectors and are influenced by the changing intensity and frequency of physical hazards as well as the value of assets.

Climate change by scenario: The scenarios are a significant factor of the Climate Value-at-Risk impact.

- ◆ **Transition opportunities** increase as the **temperature target lowers**, as innovation is boosted by policy measures to support low carbon solutions and reduce the reliance on fossil fuel supplies
- ◆ **Transition risks** increase as the **temperature target lowers**, as the carbon price increases, due to the same policies in the transition opportunity scenarios, and current high carbon emission exposure are assumed to have a high cost to decarbonize.
- ◆ **Physical impacts** increase as the **temperature target increases**, as the increase in carbon emissions continues to raise global temperatures resulting in acute and chronic weather events causing wide scale business disruption and damages.

Temperature	Scenario Category	Source	Scenario Detail	Global Financial Risk	Climate Scenario Description	Model Outcome		
						Transition Opportunities	Transition Risk	Physical Risk
1.5° C	1.5° C: Orderly	NGFS	Net Zero 2050	Low	Smooth policy changes, rapid climate technology innovation and efficiency	■	■	■
2.0° C	2.0° C: Disorderly	NGFS	Delayed Transition	Moderate	Delayed policy and technology innovation	■	■	■
3.0° C	3.0° C: Hot House 1	NGFS	National Determined Contributions	High	Minimal country climate policy enacted and followed	■	■	■
+3.0° C	+3.0° C: Hot House 2	NGFS	Current Policies	Very High	No further policy change. This is the current global trajectory			■
+4.0° C	+4.0° C Hot House 3	IPCC	SSP3-7: Regional Rivalry	Severe	Policy diverges towards national security and not climate change mitigation			■

Data input percentage

MSCI Climate Value-at-Risk model data input percentage represents whether covered issuers - corporate only - have data inputs necessary for calculation, and in the case of the Transition Opportunity Climate Value-at-Risk model component, whether the issuer also has climate transition upside. Issuers without a data record of climate transition technology or revenue are assumed to have zero climate transition upside and are not included in the data input percentage. At security level, fixed income portfolios may have lower coverage than equity portfolios across each model component.

Transition Opportunity	Transition Risk	Physical Impact
Fund %	Fund %	Fund %
69%	75%	73%

Exposures to carbon intensive sectors

HSBC Asset Management (Fund Services UK) Limited has disclosed the product allocation to six sectors with high exposure to climate transition risk. These sectors are the same reported in [HSBC Holdings plc annual report](#) but the mapping and financing to these sectors between the two entities is different. It is important to note that not all companies within these sectors are high emitters and as more companies shift to renewable solutions, we expect a reduction in carbon intensity.

	Automotive	Chemicals	Construction and building materials	Metals and mining	Oil and gas	Power and utilities	Total
Weight %	1.7%	0.0%	0.0%	0.0%	0.0%	3.5%	5.2%
Weighted Average Carbon Intensity (tCO ₂ e / USD million)	0.3	0.0	0.0	0.0	0.0	29.7	29.9

The higher the carbon intensive exposure, the higher the transition costs are likely to be.

Forward-looking metrics and portfolio alignment

Critically, the Climate Value-at-Risk model places a high weight on the current climate profile of the issuer. A company in a high carbon sector will have higher decarbonisation costs than a company in a low carbon sector. Companies that are currently engaged in low carbon solutions will have higher projected opportunities. The model does not capture the commitments of those companies that are serious about a low carbon economy but perhaps not yet transitioning or are not at the forefront of the clean technology revolution but can still benefit. To assess portfolios using a forward-looking view that considers some qualitative company action, we leverage MSCI's portfolio alignment Implied Temperature Rise metric.

What is the Implied Temperature Rise Metric (ITR)?

The Implied Temperature Rise (ITR) metric is a forward-looking metric that can be used to show whether a fund is aligned or misaligned to a global warming target of less than 2.0°C by 2100. The ITR metrics we show are calculated by MSCI, a third-party data provider.

For an individual company (or issuers in the case of corporate bonds), ITR compares the projected carbon emissions of the company to a carbon emissions budget that is relevant for that company:

- ◆ The projected carbon emissions of the company are based on the company's stated emissions targets together with an assessment of potential emissions undertaken by MSCI.
- ◆ The carbon emissions budget considers the emissions a company would need to meet in future in order to be in line with a global warming target of 1.55°C. It is determined independently and takes account of the industry sector and geographic location that is applicable to the company.

The difference between the projected carbon emissions of the company and its carbon emissions budget is converted into a temperature figure, which is the ITR for the company.

The portfolio's ITR is derived based on the sum of all financed carbon budget overshoots, then converted into a temperature figure. Funds which are considered to be aligned will be made up of companies which, on average, are also aligned e.g. an ITR of 2.0°C or less.

ITR for the fund is shown below. The table below provides further information about how to interpret ITR for the fund and whether it is aligned or misaligned to global warming targets.

The data required to determine ITR may not be available for all companies that are held by the fund. There are also some types of asset for which ITR is not currently calculated, including government bonds. The table below therefore also shows the percentage of the fund's holdings for which we have ITR data coverage.

How to interpret the ITR – Scale/Score

Below describes the ITR Bands.

	ITR Band	Range (°C)	Description
MISALIGNED	Strongly Misaligned	> 3.2	This company/portfolio is misaligned even by business-as usual standards. Its contribution to catastrophic climate change is higher than most companies/portfolios'.
	Misaligned	> 2.0 – 3.2	This company/portfolio does not comply with the Paris Agreement goals. Its pace of decarbonization is too slow to mitigate catastrophic climate change. The threshold is determined by the NGFS REMIND "Current policies" scenario yielding an estimated 3.24°C at the 2100 horizon (rounded 3.2°C).
ALIGNED	2° C Aligned	>1.5 – 2.0	This company/portfolio meets the Paris Agreement's minimum objective of +2°C global mean temperature compared with pre-industrial levels. It is engaged in the low carbon transition.
	1.5° C Aligned	<=1.5	This company/portfolio is in line with the Paris Agreement's maximal objective of keeping global mean temperature to +1.5°C compared with pre-industrial levels. It is a transition leader, significantly contributing to mitigating catastrophic climate change.



Implied Temperature Rise	ITR
	31/12/2024
Fund	>2.0 - 3.2 (°C)
Coverage	81%

Glossary – Carbon metrics

Data Source	<ul style="list-style-type: none"> ◆ Scope 1&2: S&P Global Trucost. ◆ Scope 3: S&P Global Trucost. ◆ Climate Value-at-Risk: MSCI ◆ Implied Temperature Rise: MSCI 	Formula	Sum of the carbon emissions divided by economic output, multiplied by the weight of the investment
Weighted Average Carbon Intensity Commonly referred to as WACI	<ul style="list-style-type: none"> ◆ Unit is tonnes of carbon dioxide equivalent per million of USD (tCO₂e/USD m) ◆ For corporate issuers, the “economic output” is million USD of revenue ◆ For sovereign issuers, “economic output” is million USD of Purchasing Price Parity (PPP) adjusted gross domestic product (GDP) ◆ “Weight of the investment” is the market value of the investment divided by the value of the portfolio. ◆ Scope 2 emissions are location-based, which means their calculation method reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data). Source: Scope2_ExecSum_Final.pdf (ghgprotocol.org) ◆ Scope 3 emissions only includes upstream emissions. Challenges remain over the uncertainty of including downstream emissions data given reliance on propriety estimation models and proxy data, variability in data measurement and quality, and lack of standardized sector-specific guidance. We will continue to monitor latest guidance and regulation and leverage on our engagement and stewardship activities to monitor company decarbonization efforts. ◆ The reported figure is adjusted for eligible data coverage based on share of holdings and data availability. This allows for better comparability to other funds. 	Formula	Sum of the carbon emissions divided by economic output, multiplied by the weight of the investment
Total Carbon Footprint	<ul style="list-style-type: none"> ◆ Unit is tonnes of carbon dioxide equivalent per millions of USD (tCO₂e/USD m) ◆ “Weight of the investment” is the market value of the investment divided by the value of the portfolio ◆ Scope 2 emissions are location-based, which means their calculation method reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data). Source: Scope2_ExecSum_Final.pdf (ghgprotocol.org) ◆ Scope 3 emissions only includes upstream emissions. Challenges remain over the uncertainty of including downstream emissions data given reliance on propriety estimation models and proxy data, variability in data measurement and quality, and lack of standardized sector-specific guidance. We will continue to monitor latest guidance and regulation and leverage on our engagement and stewardship activities to monitor company decarbonization efforts. ◆ The reported figure is adjusted for eligible data coverage based on share of holdings and data availability. This allows for better comparability to other funds. ◆ Please note that we are unable to report Total Carbon Footprint on approximately 0.27% of HSBC Asset Management (Fund Services UK) Limited’s AuM due to missing company values. We do not deem this to be material. 	Formula	Sum of the carbon emissions divided by issuer value, multiplied by the weight of the investment
Total Carbon Emissions Commonly referred to as ‘financed emissions’	<ul style="list-style-type: none"> ◆ Unit is tonnes of carbon dioxide equivalent (tCO₂e) ◆ Scope 2 emissions are location-based, which means their calculation method reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data). Source: Scope2_ExecSum_Final.pdf (ghgprotocol.org) ◆ Scope 3 emissions only includes upstream emissions. Challenges remain over the uncertainty of including downstream emissions data given reliance on propriety estimation models and proxy data, variability in data measurement and quality, and lack of standardized sector-specific guidance. We will continue to monitor latest guidance and regulation and leverage on our engagement and stewardship activities to monitor company decarbonization efforts. ◆ In 2024, our methodology changed to remove any reweighting of Total Carbon Emissions across the portfolio as we think this is more representative of our portfolios. Unadjusted Total Carbon Emission is a non-weight-adjusted figure and represents tons of emissions financed by eligible AUM with data coverage. To reflect this, the reported figures for 2024 and 2023 in this report are unadjusted. For prior years we reported an adjusted figure with reweighting for share of holdings and data availability. ◆ The reported figure is not adjusted for eligible data coverage. ◆ Please note that we are unable to report Total Carbon Emissions on approximately 0.27% of HSBC Asset Management (Fund Services UK) Limited’s AuM due to missing company values. We do not deem this to be material. 	Formula	Sum of the carbon emissions divided by issuer value, multiplied by investment

Glossary – Carbon metrics

Coverage Percentage	<ul style="list-style-type: none"> ◆ Sum of all holdings weights where data is available ◆ Some assets, like cash and derivatives are not applicable and are not part of the calculation. As 'Total Carbon Emissions' is a derivative of 'Total Carbon Footprint', they have the same coverage percentage.
Carbon dioxide equivalent "CO₂e"	<ul style="list-style-type: none"> ◆ Total amount of greenhouse gas emission types converted into carbon dioxide resulting in the total unit of emissions. Refer to section above "How is carbon measured?"
Issuer value	<ul style="list-style-type: none"> ◆ For listed corporates, issuer values is the EVIC or Enterprise Value including Cash ◆ For unlisted companies, issuer value is total book value of debt and equity ◆ For sovereign issuers, issuer value is the purchasing power parity gross domestic product ("PPP-GDP") of the country for sovereign issuers
NGFS	<ul style="list-style-type: none"> ◆ The Central Banks and Supervisors Network for Greening the Financial System (NGFS) is a group of Central Banks and Supervisors willing, on a voluntary basis, to exchange experiences, share best practices, contribute to the development of environment and climate risk management in the financial sector, and to mobilize mainstream finance to support the transition toward a sustainable economy. MSCI use the NGFS generated climate projection scenarios as parameters in their Climate Value-at-Risk model
IPCC	<ul style="list-style-type: none"> ◆ The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change. The IPCC have also developed scenario pathways used by the MSCI Climate Value-at-Risk model
SSP	<ul style="list-style-type: none"> ◆ Shared Socio-economic Pathways which include global carbon emission concentration forecasts, are incorporated in the IPCC climate scenarios
Nationally Determined Contributions	<ul style="list-style-type: none"> ◆ Includes all country climate pledges, even if they are not yet implemented
LULUCF Why we currently do not include land use data in PRIMAP-hist	<ul style="list-style-type: none"> ◆ Land Use, Land-Use Change and Forestry ◆ LULUCF data has high annual fluctuations which makes it difficult to combine dataset by scaling of one dataset to match the other (and use the growth rates of the scaled dataset to extend the other dataset). Thus, in PRIMAP-hist v1 we used unscaled data, which introduces sudden changes in emissions timeseries that were often understood by users as changes in actual emissions instead of changes in underlying dataset. LULUCF emissions estimates vary strongly between different datasets and methodologies used can be very different. There are also changes in methodologies with datasets, which again introduce sudden emission changes into the time series. With the data current available, we cannot produce timeseries that fulfils our requirements for internal consistency and easy by a broad audience. Describing the inconsistencies and the limitations to the use of the dataset resulting from these issues has proven not to suffice as the LULUCF data leads to misunderstanding. This we have decided to stop LULUCF timeseries until there are either more consistent datasets or we developed an improved methodology to create a consistent and easy to use LULUCF dataset
PPP	<ul style="list-style-type: none"> ◆ Purchasing Power Parity
Net Zero	<ul style="list-style-type: none"> ◆ Cutting greenhouse gas emissions to as close to zero as possible, with any remaining emissions re-absorbed from the atmosphere, by oceans and forests for instance
Partnership for Carbon Accounting Financials (PCAF) Data Quality Score	<ul style="list-style-type: none"> ◆ PCAF proposes a methodology for scoring the quality of a company's GHG emissions data used by financial institutions in their carbon footprint disclosures. Scores of this methodology range from 1 to 5, the lowest number indicating the best quality ◆ PCAF Data Quality Scores where 1 is high and 5 is low. This is a weighted average score based on financing for on-balance sheet financed emissions
ITR and cVaR	<ul style="list-style-type: none"> ◆ ITR and cVaR includes scope 1, scope 2 and scope 3 combined.

Additional information

◆ Are there any limitations or considerations for carbon metrics?

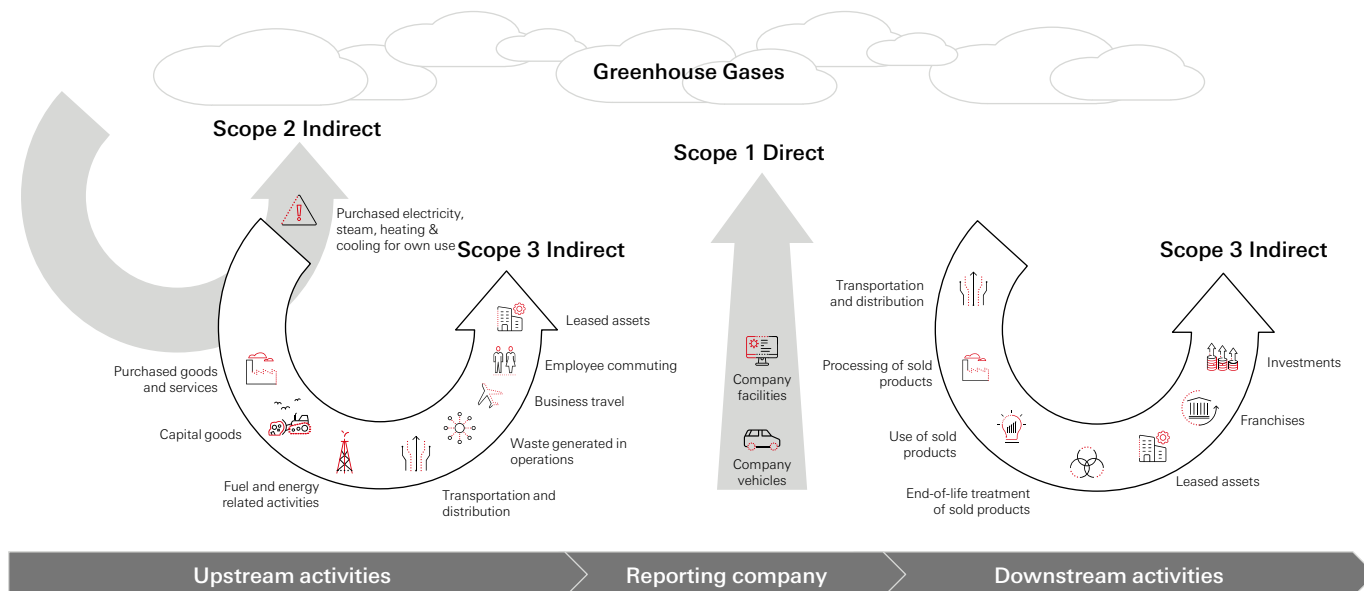
There is not 100% coverage for these metrics. While our data provider S&P TruCost endeavours to provide full coverage for the entire universe of possible holdings, there are sometimes gaps due to companies not reporting emissions and it is not appropriate to estimate non-reported emissions for niche asset classes or sub-industries. There is a further potential gap when our holding is at the subsidiary level and emissions are only reported at the level of the parent company and not distributable to the subsidiary.

We have selected S&P TruCost as our primary provider for publicly disclosing our carbon emissions though there are other providers with good quality capabilities. S&P TruCost, however, has been a market leader in providing climate data and broader ESG factors since 2000.

It's worth noting however, that there is often a lag between economic data such as issuer revenues or values, and carbon emissions data where the economic data is updated more frequently. This means that fluctuations in each of the carbon metrics are to be expected.

◆ Scope 1, 2 and 3 emissions: What are the type of emissions that are included in our carbon metrics?

For 2023, we chose only to include Scope 1 and 2 issuer carbon emissions. However, from 2024 onwards we are also reporting issuer Scope 3 upstream carbon emissions estimates which aligns to the FCA regulation. Scope 1 and 2 carbon is more directly under the control of the individual companies we invest in, whereas scope 3 estimates are more representative of the general carbon emissions of a sector value chain.



◆ How is carbon measured?

We account for seven major greenhouse gases identified under the Kyoto Protocol as guided by the Partnership for Carbon Accounting Financials, a methodological standard referenced by the Task Force for Climate Related Financial Disclosures. Our data provider converts these gases into one unit of carbon dioxide equivalent based on their equivalent global warming potential ratio to carbon dioxide, which is summarized in the GHG protocol and summarized in the diagram. Carbon dioxide, the default, has a value of 1. Companies in different sectors will produce different types of greenhouse gases and companies do not often report greenhouse gases individually. In these circumstances they are either estimated, and then converted to their carbon dioxide equivalent unit, or excluded, which means the total carbon emissions reported are underestimated.

Greenhouse Gases	Conversion	Global warming potential (GWP)	Final Unit
CO ₂	1 Carbon dioxide (CO ₂)	1	CO ₂ e
CH ₄	2 Methane (CH ₄)	28	
SF ₆	3 Nitrous oxide (N ₂ O)	265	
N ₂ O	4 Hydrofluorocarbons (HFCs)	138-12,400	
HFCs	5 Perfluorocarbons (PFCs)	6,630-11,100	
PFCs	6 Sulfur hexafluoride (SF ₆)	23,500	
NF ₃	7 Nitrogen trifluoride (NF ₃)	16,100	

Source: [Metrics and Targets - TCFD Knowledge Hub \(tcfdhub.org\)](#), [The Global GHG Accounting and Reporting Standard for the Financial Industry \(carbonaccountingfinancials.com\)](#), [ghgprotocol.org](#)

Source: HSBC Asset Management (Fund Services UK) Limited, data as at 31 December 2024 or most recently available.

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