

Baillie Gifford Climate Optimism Fund

TCFD Climate Report for the year ending 31 December 2023

Prepared using the Task Force on Climate-related Financial Disclosures (TCFD) recommendations.



Introduction

The Climate Optimism Fund's objective is to invest in companies that accelerate the transition to a low-carbon economy. We aim to invest in companies that have the potential to make a meaningful contribution to climate change mitigation and deliver significant upside through doing so. The Fund, therefore, invests in a range of climate solutions providers, with dedicated analysts carrying out avoided emissions estimates for each company in the portfolio to understand the potential scale of mitigation enabled, with a minimum hurdle of five million tonnes of avoided emissions delivered over the investment horizon (5-10 years).

This report explains Climate Optimism's approach to addressing climate-related risks and opportunities and describes a current view of how they may impact the portfolio. It also includes metrics to provide useful additional information. We expect the content, format and data to evolve in future versions.

Our climate commitments

Although Climate Optimism is inherently climate-focused, this does not mean that the portfolio will also exhibit a low carbon intensity. In fact, it's more likely that companies enabling the solutions we need to decarbonise will have higher emissions, given the energy and resource intensity required to develop these solutions. We factor in this intensity to our avoided emissions estimates through company-specific or product-specific life cycle assessments. We also acknowledge that although our holdings enable significant downstream emissions reductions, they still have a responsibility to mitigate the emissions within their own operations and supply chains. Taking action to decarbonise is also aligned with our focus on avoided emissions, as it increases the potential scope of impact by reducing embedded emissions in the low-carbon solution's lifecycle. We, therefore, have expectations for alignment in-line with achieving global Net Zero by 2050, outlined below:

- As of now, we commit that 100 per cent of our companies are aligned, or under engagement on a prioritised basis for alignment, with an appropriate net zero pathway.
- By 2030, we commit that over 90 per cent of the portfolio will have robust strategies in place that demonstrate alignment with a global net zero 2050 ambition. All holdings will be so aligned by 2040. Any new companies entering the portfolio will have two additional years to meet this commitment.

The concepts of alignment and decarbonisation pathways, which are integral to the portfolio-level net zero commitments we make, continue to evolve. Our aspiration and ability to fulfil these commitments is influenced by a wide range of parties and factors that can be outside of our control, such as client mandates, industry guidance, emissions trends, regulation and government action in support of the Paris Agreement. Consequently we periodically review our portfolio-level net zero commitments to take account of these factors.

Our governance and management of climate-related risks and opportunities

Details of Baillie Gifford's approach to governing and managing climate-related risks and opportunities across the firm can be found in the entity level [TCFD Climate Report](#) on the Baillie Gifford website. This includes descriptions of the roles and responsibilities of relevant Boards and Committees and integration into overall risk management.

For Climate Optimism the management of climate-related risks and opportunities is the responsibility of the investment team. We undertake tailored research and engagement with specific holdings where we feel that climate-related risks and opportunities could be particularly material to investment outcomes. We also aim to assess all holdings at least annually using the Baillie Gifford 'Climate Audit' process. The results of this are reported in the metrics section of this report and further detail on the process can be found in Baillie Gifford's entity level [TCFD Climate Report](#).

Implications of climate change for our strategy

Climate change and global efforts to address it pose potential ‘physical’ and ‘transitional’ risks and opportunities for holdings in the portfolio. Physical factors can come from changes to the climate and weather patterns, while transitional factors can come from things like new policies, technologies or consumer behaviours.

Assessing the potential influence of these risks and opportunities on investment returns is part of our long-term investment style. However, this is a complex task and we expect our views to continue to change over time. To help us, we think through different versions of the future using a technique called qualitative scenario analysis. At present, we believe this is more useful than quantitative scenario analysis (which is dependent on numerical data and modelling) because it allows us to explore the complexities and knock-on effects of future pathways.

Baillie Gifford has developed three qualitative climate scenarios in partnership with two external organisations: The Deep Transitions project (a collaboration between the universities of Utrecht and Sussex) and Independent Economics (a macroeconomics consultancy). The scenarios are based on NGFS (Network for Greening the Financial System) ‘orderly’, ‘disorderly’ and ‘hothouse’ world scenarios. More detail has been added in areas of interest to us, including human behaviour, technology adoption and societal change. This is explained further in articles on the Baillie Gifford website. The qualitative scenarios describe three different versions of the future:

	Smooth, orderly transition (1.5C by 2100)	Volatile, disorderly transition (<2C by 2100)	‘Hothouse’ world (>2.5C by 2100)
Climate	Significant but managed change; resilience retained	Worsening impacts	Major challenge to resilience; regional collapses in food/water systems
Politics	Coordination and trade supports transition	Initially divided, then more united	Fractured; protectionism rises
Policies	Well-signalled and proactive; early action	Initially diverse, then higher-cost and sometimes disruptive	Fragmented; supporting incumbents then biased to adaptation
Society	Rapid shifts in behaviour; circular and ‘just transition’	Uneven development; self-reliance; inequality	Individualistic; higher levels of inequality, migration and conflict
Energy technologies	Technology tipping points reached early, influencing many sectors	Fragmented energy system limits cost reductions; innovation comes later	Fossil fuel dependency extended, costs higher, late-stage radical solutions
Adaptation responses	Varied and successful; managed across the global economy	Unequal; significant fiscal drain in some countries	Critical: agriculture, water, healthcare, climate defences
Finance	Multi-lateral financial reform supports investment flows to transition	Contradictory investments; market shocks from abrupt policy change	Greater variability; insurance contracts; adaptation costs pull investment from elsewhere

Climate Optimism is able to use these scenarios to explore possible implications for holdings in the portfolio over the short, medium and long term, which are described below. These timeframes have been chosen because they are relevant to our investment timeframes, though we recognise that changes to the climate happen over much longer timeframes.

Short-term risks and opportunities (0-3 years)

Over the next few years, climate-related risks for most portfolio holdings are more likely to be transitional than physical. Although climate change is already making weather events more severe, this is unlikely to significantly impact the whole portfolio within a three-year timeframe, even under a hothouse world scenario. However, physical impacts could be significant for some companies.

Trends in technology, policy and markets are likely to have more of an impact on the portfolio over this timeframe. Under both orderly and disorderly transition scenarios, there may be significant opportunities for holdings that are directly helping to drive the decarbonisation of the economy. However, in the disorderly scenario this is likely to be more volatile across different regions and sectors. All companies in the portfolio are key enablers of decarbonisation, from Prysmian producing underwater cables connecting wind turbines to Tomra developing reverse vending machines for recycling systems.

Conversely, both orderly and disorderly scenarios may increase transitional risks for companies with more highly carbon intensive products, processes or supply chains. Although the timing will vary in different markets, such companies may face higher costs or risk customer loss as emissions regulations tighten and social perspectives shift. In 2023 we engaged with holdings such as CATL, Prysmian and FMG to understand more about their plans to address these risks.

Under the hothouse world scenario, the risks and opportunities described above are less likely to accrue over the short term. For high emitters there may even be financial advantages to delaying plans to reduce emissions or diversify business models. However, the portfolio has limited exposure to companies in this position.

Medium-term risks and opportunities (3-10 years)

Over the medium term, the impacts of orderly and disorderly transitions may become more different from each other. Under an orderly transition, there are likely to be significant opportunities at a global scale for companies providing climate solutions and those that can reduce their emissions substantially this decade. Under a disorderly transition, these opportunities may be reduced as regional diversity in climate policy introduces additional complexities for companies to navigate.

Meanwhile, the physical impacts of climate change are expected to become more widespread, especially under the hothouse world scenario. For the portfolio as a whole, the geographical and sectorial mix of holdings may help to provide some resilience. However, the portfolio holds some companies with more significant geographic exposures such as FMG in Australia, Arcadium in Argentina and SCA in Sweden. Others are reliant on complex international supply chains such as Tesla, NIO and Rivian within the EV supply chain and Vestas within the wind supply chain.

Long-term risks and opportunities (10+ years)

Assessing risks and opportunities to the portfolio over the long term is challenging due to the uncertainties involved. However, under a hothouse world scenario it is anticipated that physical climate impacts become the main climate-related risk to returns. Under this scenario, the impacts on people and economic activity are likely to affect most holdings in the portfolio. There may, however, be some opportunities for companies whose products and services assist with climate adaptation.

Under orderly or disorderly transition scenarios, the impacts on the portfolio in the long term may become even more significant. Risks and opportunities associated with new technologies and markets may become even more material as the 'winners' of the transition emerge, causing the old to fall away. Under a disorderly scenario, regions of the world that were delayed in their transition might need to catch up, offering new opportunities for transition-aligned companies. However, the rushed nature of this process may pose risks due to abrupt policy changes and asset retirement.

Key Metrics (as at end December 2023)

Emissions scopes and units

The global standard for measuring entities' greenhouse gas emissions is the Greenhouse Gas Protocol. It contains different 'scopes' of emissions, which are used in this report:

- Scope 1: Emissions produced directly by the entity, typically through the combustion of fossil fuels on site.
- Scope 2: Emissions that occur due to energy used by the entity, often through the off-site generation of electricity in a power station.
- Scope 3: Emissions that occur somewhere in the entity's 'value chain' as a result of its activities. There are 15 different categories including those associated with the raw materials an entity uses and the use of its sold products. Emissions from transport, distribution and business travel are also included.
- Material Scope 3: We also add an additional category of 'material' scope 3 emissions to our reporting in line with the recommendations of the Partnership for Carbon Accounting Financials (PCAF). Material scope 3 emissions are the scope 3 emissions from entities operating in certain sectors where such emissions are particularly significant. In the 2022 reporting year this covered the oil and gas and mining sectors, however for the 2023 reporting year it also includes the transportation, construction, buildings, materials and industrial activities sectors, per PCAF guidance. **Material scope 3 emissions are therefore very likely to be higher for the 2023 reporting year vs. the 2022 reporting year.**

All our emissions metrics use CO₂e as the unit of greenhouse gases. Carbon dioxide (CO₂) is the most prevalent greenhouse gas but there are others such as methane which have different levels of warming impact per tonne of emissions. Because of this, it is common for CO₂e to be used as a common unit to refer to all greenhouse gases emitted by an entity. Its value is equivalent to the total amount of CO₂ that would need to be emitted to achieve the same level of warming impact as the CO₂ plus other greenhouse gases emitted.

Core emissions metrics

The metrics in this section include the Total Emissions, Carbon Footprint and Weighted Average Carbon Intensity (WACI) of the portfolio as required by the UK Financial Conduct Authority's (FCA) product-level climate disclosure rules. More explanation of all the metrics used can be found in the tables themselves and footnotes. Any climate targets or objectives set by the portfolio are detailed in the earlier sections of this report.

Data availability

Data for some holdings is currently unavailable from our data suppliers. The metrics presented in this section may therefore not relate to the entire portfolio, particularly where holdings are not listed on a stock exchange. Cash and derivatives are presently excluded. For emissions data, we provide details of whether data is reported, estimated or unavailable in the 'Emissions data coverage' table. Our disclosure of metrics associated with our own assessments of holdings' targets and transition role is intended to help address gaps in data from external data suppliers, and we will continue to explore additional solutions in future.

Additional metrics

We have also included additional metrics that may be useful in assessing potential climate-related risks and opportunities to the portfolio. These include our assessment of holdings' net zero targets and their transition role, which is based on our own research and analysis. In addition, we provide metrics on exposure to material sectors, fossil fuels and alignment with the Science Based Targets initiative.

FCA rules also require Baillie Gifford to determine if a portfolio has concentrated or high exposures to carbon intensive sectors and if so to include quantitative scenario analysis metrics. We define such portfolios as those with either: 1) a WACI (on a Scope 1, 2 & material Scope 3 basis) above that of its respective financial performance benchmark or the MSCI ACWI index, or 2) a higher level of exposure to holdings generating more than 5% revenues from fossil fuels than its respective financial performance benchmark index or the MSCI ACWI index.

For such portfolios, we also include Climate Value-at-Risk metrics in this section, provided we can obtain data for more than 70% of the portfolio by AUM) from our data suppliers. However, unless specifically required, Baillie Gifford has chosen not to provide Climate Value-at-Risk metrics for all portfolios as we believe data and methodology constraints mean they are not practicable for widespread use and potentially could be inaccurate or misleading. We also do not provide Implied Temperature Rise metrics for the same reasons. We continue to engage with data providers as these metrics evolve.

Year-on-year changes

In line with the requirements of the UK FCA, we have included values for previous years alongside the most recent values for most metrics. **It is important to be aware that any changes in year-on-year metric values may happen for several different reasons** including changes to the portfolio composition, data re-adjustments by our data suppliers, new data being available to our data suppliers, as well as underlying changes within the holdings themselves.

Benchmarks

Where applicable, we have provided metrics for the financial benchmark used by the portfolio for comparison purposes. The benchmark used for this portfolio is the FTSE All World.

Emissions metrics

Total carbon emissions from assets held by the portfolio

The total emissions of the portfolio represent the absolute greenhouse gas emissions from assets held, allocated on a proportional basis. This means a portfolio holding 1% of a company's enterprise value would be attributed 1% of the company's emissions. This metric will vary due to portfolio size and is therefore not recommended for direct comparison with other portfolios.

	2022	2023
	Portfolio	Portfolio
Total Scope 1&2 emissions (tCO ₂ e)	49	94
Total Scope 1,2 & material Scope 3 emissions (tCO ₂ e)	73	1,125
Total Scope 3 emissions (tCO ₂ e)	1,487	1,430
Total Scope 1,2 & 3 emissions (tCO ₂ e)	1,536	1,524

Source: Baillie Gifford, MSCI, FactSet

Carbon footprint of the portfolio

The carbon footprint of the portfolio represents the aggregated GHG emissions per million £/\$ invested and allows for comparisons of the carbon intensity of different portfolios.

	2022		2023	
	Portfolio	Benchmark	Portfolio	Benchmark
Scope 1&2 emissions (tCO ₂ e) per \$m invested	13	60	27	57
Scope 1,2 & material Scope 3 emissions (tCO ₂ e) per \$m invested	19	249	324	334
Scope 1,2&3 emissions (tCO ₂ e) per \$m invested	409	418	439	401

Source: Baillie Gifford, MSCI, FactSet

Weighted average carbon intensity (WACI) of the portfolio

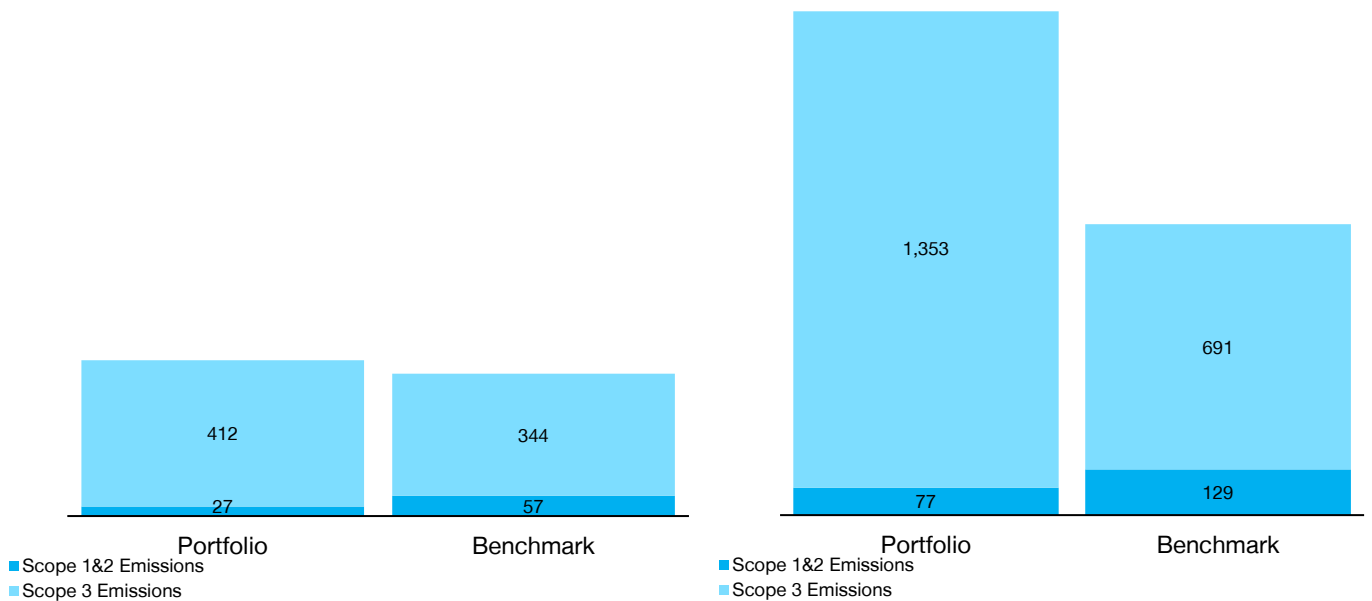
The WACI of the portfolio represents the aggregated carbon intensities per \$m revenue of the companies in a portfolio, scaled by size of holding. The WACI metric therefore helps measure a portfolio's exposure to high carbon intensity companies and can be used for comparisons with other portfolios.

	2022		2023	
	Portfolio	Benchmark	Portfolio	Benchmark
Scope 1&2 emissions (tCO ₂ e) per \$m revenue	63	150	77	129
Scope 1,2 & material Scope 3 emissions (tCO ₂ e) per \$m revenue	105	468	1,187	609
Scope 1,2&3 emissions (tCO ₂ e) per \$m revenue	1,333	901	1,430	820

Source: Baillie Gifford, MSCI, FactSet

Carbon Footprint of the portfolio
(tCO₂e per \$m invested)

Weighted Average Carbon Intensity (WACI) of the portfolio
(tCO₂e per \$m revenue)



All figures are rounded, so any totals may not sum.

Emissions data coverage for the portfolio

These metrics are intended to provide a guide to the level of data coverage for portfolio emissions metrics. For reasons of consistency, we source all emissions data from our data provider. The metrics show the level of reported vs. estimated vs. unavailable data for different emissions scopes for the portfolio.

It is important to note that the data we use for Scope 3 emissions is all estimated. This is because whilst some holdings do report Scope 3 emissions, this typically does not cover all emissions categories within Scope 3, meaning that reported data is not consistent across companies. Estimated Scope 3 data covers all relevant Scope 3 categories and is therefore more consistent.

For additional context, we also include the percentage of total AUM invested in holdings who disclose to the CDP which is the world's foremost voluntary climate disclosure platform.

	2022		2023	
	Portfolio	Benchmark	Portfolio	Benchmark
% of total AUM for which reported Scope 1&2 emissions data from our data provider is used	53	85	71	88
% of total AUM for which estimated Scope 1&2 emissions data from our data provider is used	42	15	18	12
% of total AUM for which Scope 1&2 emissions data is not available from our data provider	6	1	11	0
% of total AUM for which estimated Scope 3 emissions data from our data provider is used	98	99	89	99
% of total AUM for which Scope 3 emissions data is not available from our data provider	2	1	11	1
% of total AUM invested in holdings disclosing to CDP annually	36	81	56	84

Source: Baillie Gifford, MSCI, CDP, FactSet

Additional insight metrics

Exposure to 'climate material' sectors

This metric is intended to show the proportion of the portfolio invested in companies operating in sectors that are materially relevant to addressing climate change. These sectors may be exposed to higher levels of climate-related risks and opportunities. Our definition uses the TCFD 'carbon related assets' definition, ie any company operating in the Energy, Transportation, Buildings and Materials, Agriculture, or Food and Forests sectors, mapped by GICS sub-industry.

	2022		2023	
	Portfolio	Benchmark	Portfolio	Benchmark
% of total AUM invested in companies in 'climate material' sectors	57	34	65	34

Source: Baillie Gifford, FactSet

Exposure to fossil fuel activities

These metrics show the exposure of the portfolio to any companies generating at least 5% of their revenues from fossil fuel activities. This is a broad metric which can include companies in fossil fuel sectors and those operating mainly in other sectors.

	2022		2023	
	Portfolio	Benchmark	Portfolio	Benchmark
% of total AUM invested in companies with > 5% revenues from oil and/or gas activities ¹	0	9	0	8
% of total AUM invested in companies with > 5% revenues from thermal coal mining and sale ²	0	0	0	1
% of total AUM invested in companies with > 5% revenues from thermal coal power generation	0	1	0	1

Source: Baillie Gifford, MSCI, FactSet

Climate 'value-at-risk' assessment

This metric is provided for certain portfolios to help provide an initial quantitative assessment of the impacts to the portfolio under different climate scenarios. We provide MSCI's CVaR (Climate Value at Risk) metrics for both transitional and physical impacts for this purpose. We believe these metrics are at a very early stage of evolution and should not be used as a guide to future performance because they do not fully capture all transitional and physical factors, especially over the longer term.

Please note that the methodology used by our data supplier has changed between 2022 and 2023. Although we have included 2022 and 2023 figures for information purposes, they should not be directly compared.

	2022		2023	
	Portfolio	Benchmark	Portfolio	Benchmark
Indicative estimate of climate-related value at risk (%) from transitional factors by 2050 under REMIND NGFS 1.5C 'orderly transition' scenario (provided by MSCI)	8	-4	-2	-7
Indicative estimate of climate-related value at risk (%) from transitional factors by 2050 under REMIND NGFS 1.5C 'disorderly transition' scenario (provided by MSCI)	7	-17	-1	-10
Indicative estimate of climate-related value at risk (%) from transitional factors by 2050 under REMIND NGFS 3C scenario (provided by MSCI)	0	0	0	-1
Indicative estimate of climate-related value at risk (%) from physical factors by 2050 under high emission (based on RCP 8.5) scenario (provided by MSCI)	-3	-6	-4	-7

Source: MSCI, FactSet

¹ Includes oil and/or gas extraction and production, distribution, retail, equipment and services, petrochemicals, pipelines and transportation and refining. Excludes biofuel production and sales, and trading activities.

² Includes the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties. Excludes metallurgical coal, coal mined for internal power generation, intra-company sales of mined thermal coal and revenue from coal trading.

Transition alignment metrics

Our assessment of holdings' net zero targets through our 'Climate Audit' process

These metrics provide insight into our own assessment of holdings' emissions reduction targets, strategy and progress towards achieving them. The metric is based on our 'Climate Audit' assessment, which is explained in more detail in Baillie Gifford's entity level [TCFD Climate Report](#).

	2022	2023
	Portfolio	Portfolio
% of total AUM with targets assessed as 'leading' (ie holdings with targets, strategy and progress in line with an appropriate 1.5C-aligned pathway)	23	41
% of total AUM with targets assessed as 'preparing' (ie holdings preparing targets and strategy in line with an appropriate 1.5C-aligned pathway)	9	27
% of total AUM with targets assessed as 'lagging' ³ (ie holdings with little evidence of preparing targets and strategy in line with an appropriate 1.5C-aligned pathway)	67	32
% of total AUM with targets not assessed	1	0

Source: Assessed according to Baillie Gifford's internal assessment framework.

Our assessment of holdings' transition role through our 'Climate Audit' process

These metrics provide insight into our own assessment of holdings' role in a successful transition to net zero. The metric is based on our 'Climate Audit' assessment, which is explained in more detail in Baillie Gifford's entity level [TCFD Climate Report](#).

	2022	2023
	Portfolio	Portfolio
% of total AUM assessed as 'solutions innovators' (ie holdings whose core business involves developing solutions to climate change)	80	86
% of total AUM assessed as 'potential influencers' (ie holdings with relatively low emissions who are supporting the transition to net zero)	7	1
% of total AUM assessed as 'potential evolvers' (ie holdings with relatively high emissions who have potential to support the transition to net zero)	12	13
% of total AUM assessed as 'materially challenged' (ie holdings whose core business is likely to decline in a transition to net zero, with limited options to evolve)	0	0
% of total AUM not assessed	1	0

Source: Assessed according to Baillie Gifford's internal assessment framework.

Science-Based Targets alignment among holdings

These metrics provide a view of portfolio holdings' net zero alignment targets, in addition to our own assessment in the tables above. The SBTi (Science Based Targets initiative) is the world's foremost certification body for corporate net zero targets. Companies with 'approved' targets are those whose net zero targets have been validated by the SBTi. Companies who have 'committed' are those who have submitted a commitment letter to SBTi and are in the process of setting targets or awaiting their validation.

	2022		2023	
	Portfolio	Benchmark	Portfolio	Benchmark
% of total AUM invested in companies with targets approved by Science-Based Targets initiative	14	34	15	39
% of total AUM invested in companies who have committed to set targets approved by the Science-Based Targets initiative (ie those who are in the process of setting targets or awaiting their validation)	13	16	19	15

Source: SBTi

³ In some cases, portfolios with higher proportions of unlisted or smaller companies may contain more holdings assessed as 'lagging'. This may be due to the relative immaturity of these companies' disclosure and net zero alignment strategies, when compared to larger and more established companies.

Legal Notices

Baillie Gifford uses a combination of internal research and analysis and third-party data sources when preparing ESG-related disclosures.

Prior to using data sourced from a third-party provider, Baillie Gifford conducts appropriate due diligence on the third-party provider including validation of their methodology and assessment of their coverage and then carries out spot checks of the data periodically, escalating issues to the third-party provider where necessary.

However, Baillie Gifford cannot guarantee that such data is complete, up-to-date and/or accurate. Furthermore, information disclosed is based on data established at a specific time which may be liable to change. More generally, the coverage, standardisation, and comparability of ESG data continues to change and develop over time.

This disclosure is not intended to be used for marketing purposes and nor does it constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such.

The figures in this report are aggregations and calculations which draw upon data from our external data providers, principally MSCI.

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