# Herald Investment Trust PLC Climate Report

Based on Task Force on Climate-related Financial Disclosures (TCFD) recommendations

Prepared by Herald Investment Management Limited

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#### Introduction

Herald Investment Trust PLC ('HIT' or the 'Company') is an Investment Trust listed on the London Stock Exchange. The objective of the company is to achieve capital appreciation through investments in smaller quoted companies in the areas of technology, media and telecommunications ('TMT').

Investments may be made across the world. The business activities of investee companies will include information technology, broadcasting, printing and publishing and the supply of equipment and services to these companies.

While the policy is global investment in smaller quoted companies in TMT, the approach is to construct a diversified portfolio through the identification of individual companies which offer long-term growth potential, typically over a five-year horizon or more. The portfolio is actively managed and does not seek to track any comparative index. With a remit to invest in smaller companies with market capitalisation generally below \$3bn at the point of purchase, there tends to be a correlation with the performance of smaller companies, as well as that of the technology sector. A degree of volatility relative to the overall market should be expected.

The Company has appointed Herald Investment Management Limited ('HIML' or 'Herald') as the Alternative Investment Fund Manager ('AIFM') and the Investment Manager to provide portfolio management services. HIML is authorised and regulated by the Financial Conduct Authority ('FCA'). Although HIML has less than £5bn in AUM it has elected to produce TCFD entity level and product level disclosures, in line with the FCA's Environmental, Social and Governance sourcebook.

This report explains the Company's approach to addressing climate-related risks and opportunities through the investment process and describes a view of how they may impact the portfolio. It also includes data and metrics to provide additional information. HIML produced the report using the recommendations of the TCFD.

More information on the Company's investment philosophy, process, performance, and other insights can be found on HIML's website: www.heralduk.com

# Governance

Disclose the governance of climate-related risks and opportunities

Herald Investment Trust PLC OVERVIEW GOVERNANCE STRATEGY RISK MANAGEMENT METRICS & TARGETS

# HIML's Approach to Responsible Investing and Environmental Social Governance (ESG)

Details of HIML's oversight and management of climate-related risks and opportunities across the firm can be found in the entity-level TCFD-aligned Climate Report on HIML's website www.heralduk.com

The assessment and management of such risks and opportunities is the responsibility of the investment team.

HIML believe that good ESG practices can be consistent with delivering better financial performance when effectively implemented.

The UK Stewardship Code and the UN-supported Principles for Responsible Investment (PRI) recognise that institutional investors have a duty to act in the best long-term interests of their beneficiaries. Herald shares the belief underlying the Principles, namely that ESG issues affect the performance of investment portfolios and wider society, to varying degrees across companies, sectors, regions, asset classes and through time.

At Herald, we believe that successful investing is about identifying, and owning for the long-term, companies that can sustainably generate excess returns on capital for years to come. Our objective is to achieve attractive returns over the medium-to-long term whilst minimising the risk of permanent capital loss for our clients. To achieve this, we seek to identify and invest in high quality companies that are trading below our assessment of their value.

It is within our assessment of a company's quality that ESG factors play an important role. As responsible, long-term investors, an assessment of ESG risks and opportunities is an inherent part of our investment process. Gaining a robust understanding of these issues is a key part of assessing the outlook for future cash flow generation and the risks to an investment.

As long-term owners we aim to act as responsible stewards of our clients' capital by exercising our proxy voting rights and having open dialogue with portfolio companies on a broad range of issues, including ESG-related issues.

Over the years, we have taken steps that highlight our commitment to responsible investing, and we will continue to review and evolve our approach to responsible investment. We have been abiding by the UK Stewardship Code since 2010 and in January 2020, we became signatories of the United Nations-sponsored Principles of Responsible Investment (PRI), the globally recognised accord for responsible investment.

# Strategy

Implications of climate change for strategy

## **Climate Change Risk**

Herald Investment Trust Plc does not seek specific climate outcomes as part of its investment objective. However, HIML believes that the need to create a more sustainable world represents a considerable upside opportunity for companies contributing to the transition, and a significant downside risk for those who are not. Given the long-term investment time horizon of at least five years, we need to consider not only the risks from climate change itself but also how market forces and regulation could influence the potential returns for shareholders.

The financial risks from climate change are typically classified as physical or transitional risks. Physical risks are those arising from specific weather events (such as wildfires) and transitional risks are those arising from the changes to regulations, such as the move to net-zero carbon. The portfolio is well diversified to mitigate against physical risks. Changes in climate regulation, governing both the Company and investee companies, will create some uncertainty. A number of investments address the challenges arising from climate change and may benefit. However, if climate change has a significant adverse impact on the wider economy, the Company could be negatively affected.

In comparison to the broader economy, the portfolio has a relatively low carbon impact. The board of the Company encourages the Investment Manager to consider ESG factors when selecting and retaining investments.

Given the focus of the Company on investing in small companies in the TMT sectors, the Company has a relatively low carbon intensity and carbon footprint compared to the wider economy and minimal exposure to 'TCFD climate material' sectors. The Company does not target a specific level of CO<sub>2</sub> emissions and HIML regards portfolio carbon footprints and carbon intensity as a function of industry exposures rather than a company's ambition around decarbonisation. Some of the companies that are most important to the decarbonisation of the economy may have high and increasing CO<sub>2</sub> intensity as they might be investing in production facilities to support higher levels of production to assist in the transition to a green economy. Many of the largest technology companies in the world are leading in CO<sub>2</sub> emissions reduction, have ambitious net zero targets and are encouraging the smaller companies in their supply chains to reduce emissions.

Below is a current assessment of the climaterelated risks and opportunities the portfolio may face over the short, medium and long term under different climate scenarios. This assessment is based on HIML's qualitative analysis of the Network for Greening the Financial System's (NGFS) 'orderly', 'disorderly' and 'hothouse world' scenarios. **'Orderly transition'** scenarios assume climate policies are introduced early and become gradually more stringent, reaching global net zero emissions around 2050 and likely limiting global warming to below 1.5-2 degrees Celsius on pre-industrial averages.

**'Disorderly transition'** scenarios assume climate policies are delayed or divergent, requiring sharper emissions reductions achieved at a higher cost in order to limit temperature rise to below 1.5-2 degrees Celsius on pre-industrial averages.

'Hothouse world' scenarios assume only currently implemented policies are preserved, current commitments are not met and emissions continue to rise, with high physical risks and severe social and economic disruption and failure to limit temperature rise.

Herald Investment Trust PLC OVERVIEW GOVERNANCE STRATEGY RISK MANAGEMENT METRICS & TARGETS

## **Risks and Opportunities**

# Short-term risks and opportunities (0-5 years)

In the near term climate-related risks for most portfolio holdings are more likely to be transitional than physical. There is some evidence that climate change is making weather events more unpredictable and severe. HIML believe that given the diversified nature of the portfolio, the primary locations of portfolio companies being in developed countries, and the disaster recovery plans of investee companies, that individual disasters will have a modest overall impact on the assets of the Company. HIML therefore believes that it is unlikely that these physical risks will reach a systemic level of impact across the portfolio within 3 years, even under a hothouse world scenario. It is possible that the impact could be significant for some individual companies. In the past the operations of a number of portfolio companies have been impacted by flooding in Thailand and are at risk from wild fires in California and Australia and typhoons in Taiwan, in particular, and South East (SE) Asia in general.

In the short term, what is of far greater significance are the trends in technology, policy and markets shaping the transition. The majority of investments in the technology and media sectors have a low carbon footprint and the carbon emissions of the portfolios are estimated to be a fraction of those relative to the large companies indices in the UK and US. Furthermore, much of the world's most advanced technology and intellectual property tends to reside in the wealthiest and most advanced economies, which themselves

have strict environmental standards. Numerous investee companies assist in improving the world environmentally and the Company has invested in many companies that produce products where a key focus had been to reduce power consumption or to generate or store energy in a more environmentally friendly manner. The largest component of the portfolio is software, which provides efficiencies for enterprises, governments and consumers. Technology also provides energy efficient communications, entertainment and more; and we firmly believe that capitalism and technological innovation combined are the central requirements to address the environmental challenges we face.

There will clearly be climate transition risks for many companies in the wider economy and HIML has highlighted the increasing challenge in complying with environmental regulation and reporting requirements. Some companies within the portfolio are likely to see their revenues grow as they produce products that facilitate a reduction in CO<sub>2</sub> emissions and mitigate the damage caused by climate change. Conversely, we believe that both the orderly and disorderly scenarios increase the transitional risks for holdings with significant emissions from their direct operations or value chains. These include holdings such as Tripod (a PCB manufacturer) and Tower Semiconductor (a semiconductor manufacturing business); such companies may face higher costs to operate or other restrictions as emissions regulations tighten and the cost of carbon increases. Valuation and price risks can be created by Government

intervention, for instance rapidly driving new investment into the relatively small parts of the economy focused on sustainability products - an influx of capital is in some areas driving up the prices of some "sustainable" investments which may in time lead to a reduction in the future returns available to investors in such technologies.

Under hothouse world scenarios, with a less supportive policy environment and a slower pace of technological progress, the risks and opportunities noted above may not occur over this short time horizon. There is evidence of retrenchment by Governments in the speed of implementation of their green policies in the face of consumers struggling with high energy costs and the increased focus on energy security. Examples include; expanding coal mining in Germany, issuing more licences for oil and gas extraction in the North Sea, delays to onshore wind, the failure of the last UK offshore wind auction, delays to the small modular reactor (SMR) programme, push back on the date for phasing out ICE and gas boilers in the UK. There are often comparative cost penalties to climate leadership in the short-term. That might allow high emitters and those with carbon-intensive value chains to defer investment or diversification and benefit from near-term cashflows and returns. This portfolio has a low exposure to such emitters and would not be a relative beneficiary of delay.

## **Risks and Opportunities**

# Medium-term risks and opportunities (5-15 years)

Over the medium term, the range of outcomes from an orderly versus disorderly transition are more disparate. Under an orderly transition, we expect significant opportunities for companies providing climate solutions and those that can reduce their emissions substantially. Under a disorderly transition, in particular with an unstable and unpredictable government policy environment; long term planning and the return on investment for companies are more difficult to forecast. Any opportunities to benefit from introducing "greener" products are likely to be more muted as national and regional diversity in climate policy introduces additional complexity to business planning. In particular smaller, nationally or regionally focused companies will face different challenges from those seeking to operate globally. Some may be able to continue to earn returns from high-emitting activities for longer.

Over this period, it is likely that the physical impact of climate change will become more widespread and systemic. Southeast Asia and the Eastern Atlantic regions are prone to hurricanes and typhoons, which can impact supply chains. This is material for the technology sector, as many components are manufactured in SE Asia. Primary examples include semiconductor and chip production in Taiwan, a typhoon-prone area. Increased storms or typhoons due to climate change could impact investment returns, as company assets could be devalued, or product

availability and pricing could be impacted. Furthermore companies that use semiconductors in their products might also be adversely affected.

Water stress and shortages, may be a significant risk for certain manufacturing processes, such as semiconductor manufacturing, which are water intensive. This may impact the assets in which HIML's funds are invested and affects not only the relatively small number of holdings directly at risk but also other holdings further down the supply chain that use semiconductors. This may create additional expenses across the sector globally. The company's semiconductor holdings with operations in Taiwan are of particular concern, although, the industry is increasing the use of recycled water.

The geographical and sectorial diversity of holdings across the portfolio may provide some resilience to regional climate impacts. Furthermore, given the high technology nature of the portfolio with many companies offering solutions to improve power efficiency and reduce energy usage there will be some beneficiaries. The relatively low carbon footprint and carbon intensity of the portfolio should mitigate the impact of climate change. If the current global economic environment of high energy costs. high inflation and rapidly increasing interest rates persists then global growth will be diminished and the higher cost of debt is likely to limit Government expenditure on the net zero transition and the value of 'green' infrastructure projects that can be financed economically.

# Long-term risks and opportunities (15+ years)

**METRICS & TARGETS** 

In the long run assessing risks and opportunities to the portfolio becomes particularly difficult due to the increased uncertainties involved and the enormous range of potential outcomes. Under a hothouse world scenario, the impact of physical climate impacts on holdings in the portfolio become a much greater risk to returns. Some climate models illustrate a much greater probability of floods. droughts, wildfires and other climate impacts such as glaciers and polar ice sheets melting causing a sea level rise. Under such scenarios, the impact on Government policy, population migration and overall economic activity - and thus shareholder returns - is likely to be widespread and systemic, with very few holdings unaffected. Some companies may lose their markets and significant supply chain disruption is likely.

Under orderly or disorderly transition scenarios, the trends outlined in the medium-term are likely to persist. Low carbon intensity businesses and those which offer high technology that may assist in mitigating the impact of climate change are likely to be relative beneficiaries. Conversely, older economy and carbon intensive business to which the company has a low exposure will be losers. With a disorderly scenario, countries with less advanced technology that have failed to invest, may offer markets for those companies and economies that have developed solutions to address climate change. It is conceivable that in a rapid and disorderly transition that the scale of the shock could cause severe disruption and a global depression.

# Risk Management

OVERVIEW GOVERNANCE STRATEGY **RISK MANAGEMENT** 

## HIML's Approach to Responsible Investing and Climate Risk Management

#### **Objectives**

HIML's ongoing Responsible Investment objectives are:

- To assess material ESG risks as part of the investment process;
- To act as responsible owners by engaging with portfolio companies where a material ESG issue exists and exercising our proxy voting rights where appropriate; and
- $\bullet$  To identify portfolio companies with high  ${\rm CO_2}$  emission risk and encourage reporting and reduction in line with TCFD guidance through engagement.

# Integration of ESG into the investment process

For HIML's actively managed portfolios and investments, the investment team undertakes indepth company research seeking to identify sustainable competitive advantages that enable businesses to generate excess returns on capital and predictable cash flows. As bottom-up fundamental investors, we consider ESG effectiveness alongside other risks faced by companies we own and investigate. ESG analysis is integrated into our investment process and is not a separate function. We are active investors who interact closely with the management of the companies in which we invest as well as their suppliers, customers, and competitors where possible.

We recognise that ESG considerations, such as a company's board structure, environmental practices, or labour policies can affect a company's valuation and financial performance. Therefore, our investment professionals incorporate ESG issues into their research and decision-making process. Investment research includes an assessment of a company's inherent quality based on the following quality criteria:

- Economic Moat Assessment of the sustainability of a company's competitive advantage(s)
- Agency Risk Assessment of the extent that management will act in the best interest of shareholders
- Business Risk Assessment of the predictability and reliability of future cash flows and earnings
- Reinvestment Potential Assessment of a company's ability to reinvest profits back into its business at high incremental rates of return.

Analysis of ESG factors forms part of the range of issues that affect the economic sustainability, agency and business risk of companies. Gaining a robust understanding of these issues is a key element in the assessment of the outlook for, and risks to, the sustainability of future cash flow generation. HIML's investment team will make a determination about the ESG risks that are material for each company.

We look for companies with strong staff and customer retention, which generally denotes a strong social and governance environment. We do this by directly interacting with management and by reviewing available quantitative and qualitative data on an annual basis as well as ad-hoc for any extraordinary ESG incidents. Any material risks identified may warrant further engagement where necessary.

**METRICS & TARGETS** 

#### **Guidelines on Exclusions**

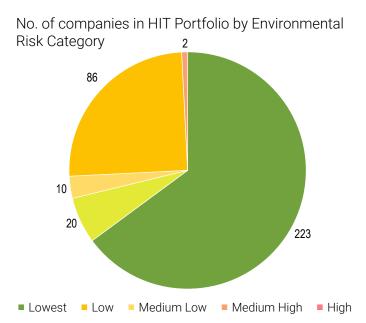
Although, no industrial sectors are currently explicitly excluded from the remit, the nature of the Technology, Media and Telecommunications (TMT) sectors that Herald focuses on implicitly limits investment in a number of the most environmentally damaging sectors, such as coal mining or generating energy by burning fossil fuels.

## HIML Guidelines on Incorporating Risk Factors

#### **Environmental Factors**

HIML recognises the growing importance that environmental issues play in our global economy. The scale of these factors will differ by company, sector, or region. Companies within the TMT sectors tend to be enablers of environmental efficiency rather than contributors to substantial environmental damage. Nevertheless, climate change and its effects will continue to pose ever changing systemic risks. We understand these risks vary by industry and as such should be managed using the principle of materiality in accordance with TCFD guidelines, so as not to put undue burden onto smaller companies which do not have a large environmental impact. As a result, we have developed a more focused emissions related risk methodology to help identify investee companies which may be high emitters and encourage them to improve climate related disclosures and reduce emissions. Our climate change risk matrix highlights the highest emitting companies in our portfolio based upon their Bloomberg BICS Level 3 Sectors and allocates them a risk factor from 1-6 with 1 being the lowest risk and 6 being the highest. Companies which have a risk factor of 3 and above based on their sector are then identified for further analysis. HIT owns no companies in the highest risk category and a large proportion of its companies are at the lowest risk. The majority of companies in the medium-high exposure are in the semiconductor and technology hardware sectors, which are ranked as 4 out of 6 in terms of environmental risk.

Risl	k Matrix	No Companies in HIT	%
1	Lowest	223	65%
2	Low	20	6%
3	Medium Low	10	3%
4	Medium High	86	25%
5	High	2	1%
6	Highest	0	0%
		341	



<b>Emission Risk Factor</b>	BICS Level 3 Sectors	Value £,M	% AUM
5 - High	Chemicals	3.0	0.2%
		3.0	0.2%
4- Medium High	Automotive	1.1	0.1%
	Electrical Equipment	25.5	2.0%
	Forestry, Paper & Wood Products	1.2	0.1%
	Semiconductors	122.6	9.8%
	Technology Hardware	200.4	16.0%
		350.9	27.9%
3 - Medium Low	Aerospace & Defence	3.7	0.3%
	E-Commerce Discretionary	3.2	0.3%
	Industrial Intermediate Prod	28.3	2.3%
	Retail - Consumer Staples	0.3	0.0%
	Retail - Discretionary	0.4	0.0%
	Wholesale - Discretionary	1.6	0.1%
		37.5	3.0%

#### **Environmental Factors** continued

The amount of exposure in each sector given our AUM as of 31st March 2023 can be seen in the above table. After the first phase of analysis 0.2% of AUM is highlighted as high risk, 27.9% is highlighted as medium high risk and 3% is highlighted as medium low risk. We review the companies which emerge and check if the nature of their business model and likely emissions profile is in line with their risk classification. In several instances, the generic category classifications do not reflect the emissions of the specific company. Where relevant, a further assessment of the materiality of the environmental risks posed by the operations of the highlighted business is carried out. If the company is likely to be a higher emitter, we check their reporting of emissions and if they have a reduction plan. If either are absent, an engagement process with the company will be initiated with the intention to encourage both reporting and the enactment of a reduction or abatement plan. By identifying these riskier sectors and analysing their ESG credentials we are mitigating the climate risk posed by these companies. We realise there is an additional cost to this. Many of the companies in the HIT smaller companies portfolio are in the early stages of establishing their businesses and have far more limited resources for providing comprehensive ESG reports than larger, more established companies. However, we believe there can be benefits to being environmentally responsible as it keeps staff loyalty and retention high as well as ensuring the ever-increasing requirements of high-quality customers and consumers are met.

Where applicable, HIML will use our proxy votes for shareholder resolutions relating to these environmental issues. HIML also track to see if our investee companies have other key policies related to the environment, such as those relating to water usage and hazardous waste. This helps ensure responsible production and consumption of vital resources.

#### **Guidelines on Social Factors**

HIML tracks a range of social factors which affect businesses and employees, many of which are indicators of the quality of governance within the company. Many of these factors are assessed through our engagement with the businesses, and include employee turnover or diversity. Other factors are evaluated using Bloomberg data. We also track if the company has policies on key issues such as human rights, anti-bribery, intellectual property protection and child labour. The business models of investee companies typically involve the employment of highly skilled, well-paid staff. They are typically paid above national average wages and their employee welfare standards are generally good. There is internal judgement and subjectivity applied to this section to determine their relevance in the context of the geographies in which the companies operate. We are supportive of global norms on human rights, labour, environmental and anti-corruption standards. These guidelines are encapsulated in numerous frameworks which are being progressively adopted by the small companies in

which Herald typically invests.

Many of the larger companies in the technology

Many of the larger companies in the technology sector such as Apple and Microsoft lead in the adoption of such frameworks.

#### **Guidelines on Governance Factors**

Assessing a company's corporate governance practices has always been a crucial aspect of HIML's investment process. We recognise that there is no single indicator with global application that identifies when companies are failing to adopt best corporate governance practices, and that different markets may adopt different practices and structures of corporate governance. However, the majority of our interactions relate to board composition and compensation to ensure the appropriate skills and independence are available to oversee accounting risk and other governance functions. HIML uses engagement and proxy votes to ensure appropriate oversight. As such, we believe governance cannot be easily encapsulated using numerical metrics but requires a more holistic approach. Therefore, our approach to corporate governance may change according to a company's local laws, regulations, established guidelines and the size and maturity of the company, and will be informed by our interactions with the company's management team and Board.

#### **Proxy Voting**

HIML considers that proxy voting rights are an important power, which if exercised diligently can enhance client returns and should be managed with the same care as any other asset managed on behalf of its clients. We assess company proxy proposals on a case-by-case basis and consider whether the resolution will enhance the certainty of long-term cash flow generation that we expect from the company. As previously mentioned in the preceding sections, where a company fails to address the concerns raised by HIML on ESG factors discussed, we will consider escalation through the use of our proxy votes to encourage improvement.

# Metrics & Targets

Herald Investment Trust Emissions

## **Engagement at HIML and TCFD Reporting Targets**

As a long-term investor, HIML is committed to engaging with all portfolio companies on a broad range of issues. Matters of strategy, capital structure, performance and risk, are the responsibility of the investment team and are the subject of regular engagement. HIML focuses its engagement on material issues, particularly those which could affect future cash flows. We are also focused on safeguarding against short term actions by either companies or their shareholders which may not be in the best interests of our clients. The level of engagement on ESG issues is also considered in the context of the relative size of our shareholding. HIML is developing a climate engagement strategy to focus on encouraging companies in the high risk sectors (Medium Low -Highest) to report in line with TCFD for the two funds HIML currently manages - Herald Investment Trust ('HIT') and the Herald Worldwide Technology Fund ('HWTF').

HIT TCFD KPI Progress	Short Term (2030)	t Term (2030) Long Term (2040)			
High Risk Sectors (Medium Low - Highest)	<b>Current Status</b>	Target	Target		
% Reporting Scope 1&2 by Value	60%	90%	100%		
% Emissions Reduction Plan by Value	45%	90%	100%		

HIT TCFD KPI Progress	Short Term (2030)	Long Term (2040)	
Total Portfolio	Current Status	Final Target	Final Target
% Reporting Scope 1 & 2 by Value	50%	60%	90%
% Emissions Reduction Plan by Value	38%	50%	90%

The performance against these TCFD reporting targets will become a KPI for HIML's investment portfolios and the percentage of companies within HIT plc reporting Scope 1 & 2 emissions can be seen in the table above. These targets have just been established and we intend to report our progress against these targets in the future.

Where the investment team believe that they have identified material risks to a business, be these climate related or otherwise, they may undertake a higher level of direct engagement, whereby they seek to understand the company's approach. HIML will encourage that risks are minimised and opportunities maximized, where material to the success of the company. Information with regards to individual company engagements are reported annually in HIML's Stewardship Report available on the website (www.heralduk.com).

Herald Investment Trust PLC OVERVIEW GOVERNANCE STRATEGY RISK MANAGEMENT METRICS & TARGETS

## **Key Metrics**

#### Key metrics (as of 31st March 2023)

The following emissions and climate policy reporting metrics are used as part of the managers' assessment of climate-related risks and opportunities for the HIT portfolio. It is believed that some of these metrics may be helpful to the Company's shareholders in understanding the risks that the Company faces from climate change and that they may wish to aggregate the CO<sub>2</sub> emissions from the Company's portfolio with those from other investments in their reporting to their own investors.

The metrics include but are not limited to the Carbon Footprint, Weighted Average Carbon Intensity and Total Emissions of the portfolio as required by the FCA product-level climate disclosure rules in the Environmental. Social and Governance sourcebook. Given the low emissions sectors within which the Company typically invests and the global, small company nature of the portfolio, reporting of emissions is at an early stage with the majority of the Company's holdings by number not yet reporting scope 1 or 2 emissions data, let alone scope 3. Among the more mature and larger small companies in the portfolio, emissions reporting coverage is better and around 50% of the portfolio by value report actual scope 1 & 2 emissions. Reporting will improve over time, however governments globally are apprehensive of imposing the costs of climate change reporting on the smallest quoted companies.

The FCA product-level climate disclosure rules also require HIML to determine if a portfolio has concentrated exposures or high exposures to carbon intensive sectors and if so to include quantitative scenario analysis metrics. HIML do not believe that the HIT portfolio has a high exposure to such sectors and furthermore given that only around a quarter of the portfolio by number reports scope 1 and 2 emissions that climate value-at-risk metrics would be unreliable. Hence, unless specifically required, HIML has chosen not to provide climate value-at-risk metrics or implied temperature rise metrics for all portfolios as they believe current methodologies, data quality and availability make them unreliable and could potentially lead to inaccurate or misleading disclosures.

HIML track the progress that portfolio companies are making in reporting emissions and also the number of portfolio holdings that have policies to improve their environmental impact. The policies include: Emission Reduction, Climate Change, Energy Efficiency and Water Efficiency. More explanation on the metrics used in this section can be found in the footnotes.

## Note on data availability and comparators

Actual emissions data for some holdings, in particular the very small companies within the portfolio or those not quoted on a stock exchange, is currently unavailable from the managers' data supplier. The actual reported metrics presented in this section do not therefore cover the entire portfolio and to get reasonable data coverage averages of similar or proxy companies, on both a mean (we believe this is the Bloomberg approach) and median basis are used. The percentage of the portfolio for which data is reported, estimated or unavailable in the 'Emissions data availability and disclosure from holdings' table below. Cash and derivatives are presently excluded. Further information with regards to the challenges of data collection, estimation and aggregation can be found below the Emissions Metrics table.

## **Herald Investment Trust Emissions**

Total carbon emissions from listed companies held by the portfolio	Portfolio Using Reported or Bloomberg Estimates	Portfolio Using Reported or Estimate Using Sector Median	Top 100 UK Index	Top 100 US
Total Scope 1&2 emissions (tCO2e)	22,599	10,582	N/A	N/A
Total Scope 1,2&3 emissions (tCO <sub>2</sub> e)	108,238	90,953	N/A	N/A
Total Scope 3 emissions (tCO <sub>2</sub> e)	85,639	80,371	N/A	N/A
Carbon foorprint of portfolio				
Scope 1 & 2 emissions (tCO <sub>2</sub> e) per £m invested	20	10	122	19
Scope 1, 2 & 3 emissions (tCO <sub>2</sub> e) per £m invested	97	82	1,726	228
Weighted average carbon intensity (WACI) of the portfolio				
Scope 1 & 2 emissions (tCO <sub>2</sub> e) per £m revenue	35	15	106	53
Scope 1, 2 & 3 emissions ( $tCO_2e$ ) per £m revenue	232	235	1,572	472
Emissions data availability and disclosure from holdings in the portfolio				
% of AUM* with available reported scope 1&2 emissions from data provider	50.2%	-	99.5%	94.7%
% of AUM* with estimated scope 1&2 emissions from data provider	49.0%	-	0.5%	5.3%
% of AUM* without reported or estimated scope 1&2 figures from data provider	0.8%	-	0%	0%
% of AUM* with reported scope 3 emissions from data provider	43.2%	-	95.9%	91.5%
% of AUM* with estimated scope 3 emissions from data provider	54.3%	-	4.1%	2.9%
% of AUM* without reported or estimated scope 3 figures from data provider	2.5%	-	0.0%	5.6%
Additional Environmental Related Metrics	Portfolio by AUM	Portfolio by Number		
%* Claim Net Zero (NZ) Target	25.7%	11.7%		
%* Had SBTI NZ Target	12.7%	4.7%		
%* Claim Science Based Targets	12.6%	6.7%		
%* Emission Reduction Policy	38.2%	23.1%		
%* Climate Change Policy	35.7%	21.3%		
%* Energy Efficiency Policy	42.8%	28.7%		
%* Water Efficiency Policy	20.1%	12.0%		
* Listed equity, exclusing cash, bonds and private companies	Source: Bloomberg and company rep	orts		

## Methodology and Data Reliability Issues

There are significant challenges in collecting, collating and comprehending CO<sub>o</sub> data for the Company's portfolio. The methodology we used was to collect the most recent reported data using Bloomberg's data acquisition tools and ensure it is a reasonable representation of the portfolio's emissions. It was clear that this was possible for Scope 1 and 2 data. However, it was more difficult for Scope 3 emissions due to differences in standards and their interpretation by companies. HIML believe that this makes Scope 3 a particularly unreliable metric. HIML initially looked for data reported in 2022 and then if unavailable we would select reported data from 2021 as a near proxy. Where neither year had reported data, we used Bloomberg estimated data to fill in the missing data for each company. This Bloomberg estimate data relies on an industry-implied model that we believe takes the average (probably the mean) reported data for each sector. This model has reliability scores based on Partnership for Carbon Accounting Financials (PCAF) which allows the origin of the data to be identified. Where real data was available from Bloomberg they were verified by looking at the company's most recent annual report or ESG report. 50.2% of the portfolio by value have reported scope 1&2 data whilst 49.0% is covered by Bloomberg estimated data. The companies which report tend to be the larger ones in the portfolio. Only 0.8% of our portfolio has neither reported or estimated data. Two examples of this are Gore Street Energy Fund and KRM 22. These are two funds for which no Bloomberg data exists. Possibly due to the difficulties of estimating the internal assets of the company. Additionally, some of these issues are

also caused by the timing differences between the portfolio date (31/03/23) and the time we finish writing the TCFD report. This is because by the time the TCFD is written some companies (e.g. MJ Hudson) have delisted meaning Bloomberg no longer generates estimated data.

We have spent significant time evaluating this data and it is fairly inconsistent and variable. We noticed two interesting trends from examining the data which was that estimated data for Scope 1&2 emissions tended to overestimate the emissions compared to reported data whilst Scope 3 estimates underestimated those when compared to reported data. HIML believe a reason for the first trend is the use of industry averages which does not classify companies into sufficiently granular and homogeneous sectors meaning companies with different operational characteristics and thus emission profiles will be bundled together. The challenges that we and Bloomberg face in finding estimated emissions data or proxies is that in the most granular sector definitions (BICS level 5) there may not be any companies globally reporting CO<sub>2</sub> data. This requires proxy companies to be found in a less granular sector definition (such as BICs level 3), the challenge then is that the disparity of business models and hence carbon intensity can vary enormously and that the mean measure of central tendency can be heavily impacted by this outlying data resulting in large standard deviations. HIML observed that for some companies in the Herald Investment Trust portfolio, that the likely distortion of the mean estimated scope 1 and 2 carbon intensity to their "real" carbon intensity, might be 10 or 100 times too high. This would

create a significant distortion at the portfolio level.

As a comparison, we decided to generate our own portfolio estimates based instead on the median reported carbon intensity for our portfolio's positions. We generated these median carbon intensities by screening for companies in the sectors relevant to the portfolio, utilizing those with a market cap of >£100m giving us a large data set of over 3000 companies. Where median carbon intensities were available for BICS level 5 they were used and if not we used the wider BICS level 3. This allowed us to generate the median data seen in the table above.

For approximate, comparative purposes only, we include the emissions metrics for the largest 100 companies on a weighted index basis in the UK and US. It is interesting to note that the US top 100 Scope 1&2 emissions carbon footprint is 19 tCO<sub>a</sub>e per £ invested versus 122 tCO<sub>2</sub>e per £ invested in the UK ie the UK largest 100 companies carbon footprint is 10x as much. The explanation is two fold; firstly the valuations of the US companies are much higher in relation to revenue and secondly the nature of the companies is very different. The US is dominated by the technology giants (including Apple, Microsoft and Google), trading on high multiples and well on their way to achieving net zero for Scope 1 and 2 emissions whereas the UK 100 index has companies including Shell, Rio Tinto and BP in the top 5. It is interesting to note that an investor focused on achieving a low carbon footprint would tend towards high multiple US tech companies and away from a UK stock market with a higher proportion of lower revenue multiple extractive businesses.

#### **Definitions**

- Total carbon emissions The total emissions of the portfolio represent the absolute greenhouse gas emissions from assets held, allocated on an ownership basis. This means a portfolio holding 1% of a company's market capitalisation would be attributed 1% of the company's emissions.
- Carbon footprint This represents the aggregated GHG emissions per million £/\$ invested and allows for comparisons of the carbon intensity of different portfolios.
- Weighted Average Carbon Intensity (WACI) The WACI of the portfolio represents the aggregated carbon intensities 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.
- Emissions data availability and disclosure from holdings in the portfolio These metrics provide a guide to the level of reported vs. estimated vs. unavailable data in all emissions metrics for the portfolio.
- Scope 3 emissions These numbers are very difficult for companies to calculate and there is little standardization in reporting. The data for Scope 3 emissions, in particular, should be used with the utmost caution and scepticism. In many cases, companies only report part of their Scope 3 emissions (for example business travel). This means that whilst there is some reported data, it does not always equate to full reported Scope 3 emissions across all Scope 3 categories covered by the GHG Protocol.

• **SBTI** (Science Based Targets Initiative) - Using the framework and methodology developed by the Science Based Targets Initiative. 'Approved' companies are those whose net zero targets have been validated by the SBTi. 'Committed' companies are those who have submitted a commitment letter and are in the process of setting and submitting science-based net zero targets or their targets are currently being validated.

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#### **Additional Notices**

Herald Investment Management Limited (HIML) 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, HIML 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, HIML 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 is generally variable and 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 Bloomberg. Many of the emission figures are estimated by the use of averaging proxy data from companies that operate in the same sector that have reported actual  $CO_2$  equivalent tonnes of emissions per £m of revenue. It is difficult to know the extent to which estimations are a reasonable approximation to reality.

