

The investment strategy focuses on the opportunities created by the transition to healthy, zero carbon and sustainable economies. The investment team selects high-quality companies from nine broad themes with strong growth characteristics to create a globally diversified portfolio. We develop long-term relationships with company management to promote the best environmental, social and economic outcomes.

IMPACT MEASUREMENT METHODOLOGY



Calculating impact

Introduction

This document describes the methodology that is used to collate and calculate the positive impact associated with WHEB's investment strategy. At its core, WHEB is an impact investor. All the investments made through our investment strategy have positive social and/or environmental impact. By this we mean that we invest 'in companies, organisations and funds with the intention to generate social and environmental impact alongside financial return'¹. We subscribe to this definition of impact investing and believe, like others, that there are four core characteristics. These are detailed in the table below, with WHEB's approach in each of these areas also highlighted.

Figure 1: Defining impact investing

Core characteristics of impact investing ²	WHEB's approach
Intentionality: <i>The intent of the investor to generate social and/or environmental impact through investments is an essential component of impact investing.</i>	<i>Our intention is to deliver superior financial returns by investing in companies that deliver social and/or environmental value through their products and services.</i>
Investment with return expectations: <i>Impact investments are expected to generate a financial return on capital and, at a minimum, to safeguard capital.</i>	<i>Our focus is on generating above market rate financial returns for our investors.</i>
Range of return expectations and asset classes: <i>Impact investments generate returns that range from below market to risk-adjusted market rate.</i>	<i>All our investments are intended to deliver superior risk-adjusted market rates of return.</i>
Impact measurement: <i>A core tenet of impact investing is the commitment of the investor to measure and report the social and environmental performance and progress of underlying investments.</i>	<i>We are committed to measuring and reporting the positive social and/or environmental impact of our investment funds. In this document we set out our methodology for doing this.</i>

A fuller discussion of WHEB's definition and approach to impact investing is provided in 'Impact investing in listed equities – WHEB's perspective'³

WHEB's investment themes and the UN Sustainable Development Goals

It is our belief that long-term social, demographic, environmental and resource challenges are reshaping the global economic landscape, creating new investment opportunities for companies providing solutions to these challenges, and growing risks for those sectors that deplete human and natural capital. Finance is a critical catalyst for this change and we aim to invest in companies that are both beneficiaries, and enablers, of a shift to a more sustainable global economy over the coming decades.

WHEB's investment strategy covers five environmental and four social themes. These themes directly support seven of the UN's Sustainable Development Goals (SDGs). The positive impact of companies in each theme is assessed based on a set of indicators that relate to the products or services that the company supplies. For example, the positive impact of companies in the Cleaner Energy theme is measured in terms of the MWhs of renewable energy that are generated. In Sustainable Transport, the impact is assessed in terms of how much the product or service reduces harmful air emissions (including CO₂e) from transport. In Water Management, the impact is measured in terms of how many litres of contaminated water are treated.

The selection of each indicator has been made primarily with reference to existing measurement indicators that are used in **WHEB's** investment process. We have also drawn from the work of others in supplementing this list of indicators. This review included the reporting frameworks put forward by asset owners, research groups and other institutions.⁴

Figure 2: Mapping **WHEB's investment themes** to the UN SDGs and relevant indicators (covering 2020)

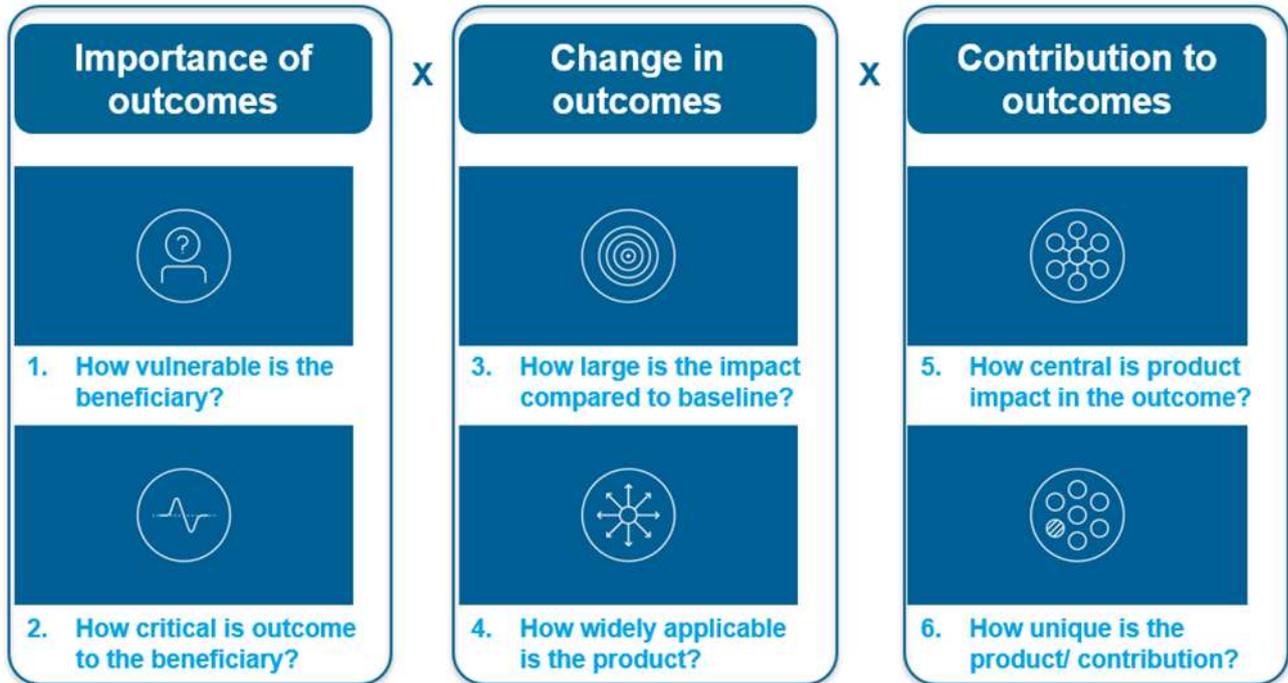
	WHEB INVESTMENT THEMES				WHEB INVESTMENT THEMES				
	Safety	Sustainable transport	Cleaner energy	Renewable energy	Environmental services	Water management	Health	Social housing	Education
Indicative areas of business activities	Making products safe Protecting existing products with	Intervene and roll forward Long-polling road transport No research, funded and vehicle certified	Renewable energy Renewable energy generation	Energy efficiency products Efficient buildings Efficient lighting Efficient manufacturing Efficient power	Climate services Circular economy products Waste-to-energy Waste-to-energy	Efficient water use Fresh water protection Waste water treatment	Quality care of patients Healthcare products and services Preventative care Research and innovation	Housing, urban and rural health Residential care for the elderly	Tertiary education
Portfolio holdings	Aviation Group plc Aviation plc Woolley Group plc	Aerly plc Hella KGaA Hueck & Co. Johnson Technologies AG JCB Hard Transport Services Inc. TE Connectivity Ltd Wipac Corp.	Clear Energy International Ltd ED Concessions plc Helske Wind Services Ltd	AG Smith Corp. Ampco Inc. Aurubion Inc. Dallmeier Co. Ltd. Dallmeier Industrial Ltd. Energie Corp. Kingspan Group plc Rohm Group AG Larsen International Inc. Renold plc Sillson Laboratories Inc.	Arvalis BV Hunting Ltd Kunststoffe (DDE) AG Larsen plc Spartan Energy plc	Advanced Drainage Systems Inc. China Water Affairs Group Ltd. Kiviat Inc. Hydro Inc.	Aplint Technologies Inc. Cantax Corp. Cancer Care CBL Ltd. Dentaur Corp. Hilma Pharmaceuticals plc K229 plc Pharmax Inc. Sonic plc Teva Filer Scientific Inc.	The Cooper Companies Inc. Cigna UK Hessons Housing AG	Grand Canyon Education Inc. Dorland Education Inc.
Positive impact in 2020			204,000 MWh of renewable energy		82,000 tonnes of waste recovered or recycled	2.8bn litres of waste water treated	100 COVID-19 tests provided		340,000 days of tertiary education
			315,500 tonnes of CO ₂ e avoided		315,500 tonnes of CO ₂ e avoided	750m litres of water use avoided	515,000 people received healthcare treatment		
	UN SUSTAINABLE DEVELOPMENT GOALS				UN SUSTAINABLE DEVELOPMENT GOALS				
Supporting 7 SDGs	11 SUSTAINABLE CITIES AND COMMUNITIES	7 AFFORDABLE AND CLEAN ENERGY	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	6 CLEAN WATER AND SANITATION	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION		

The 'impact engine' - assessing the impact of products and services

Companies supply a vast range of products and services with differing levels of positive impact. In 2019, we introduced a new analytical tool to assess the overall **impact 'intensity'** of the products and services offered by companies. This tool is intended to capture the different dimensions of positive impact that are created by products and services and builds upon existing frameworks in the market⁵. We revised the impact engine in 2021 and now have six questions covering three dimensions of impact: the importance of the outcomes, the change in the outcomes and the contribution to the outcomes.

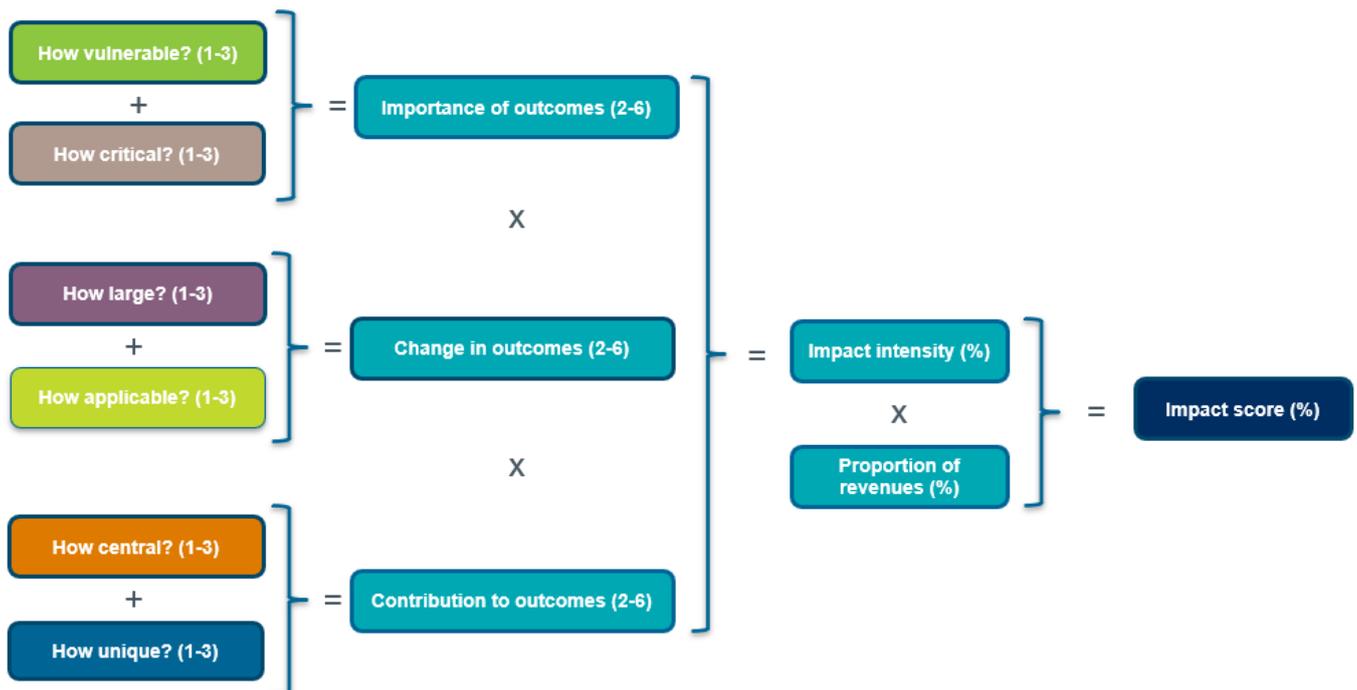
These dimensions along with the six questions are displayed in figure 3.

Figure 3: Dimensions of impact



Each question is assessed and given a score from one to three with three denoting a higher impact. The scores in each of the three dimensions are then multiplied and then the three scores added to give an impact factor which is then translated into a percentile score. This is then multiplied by the proportion of revenues attributable to that product/service to give an overall impact intensity score. Where companies have more than one category of product, the impact intensity is calculated separately and then summed to produce an overall impact intensity score for the company as a whole.

Figure 4: Calculating the impact engine score

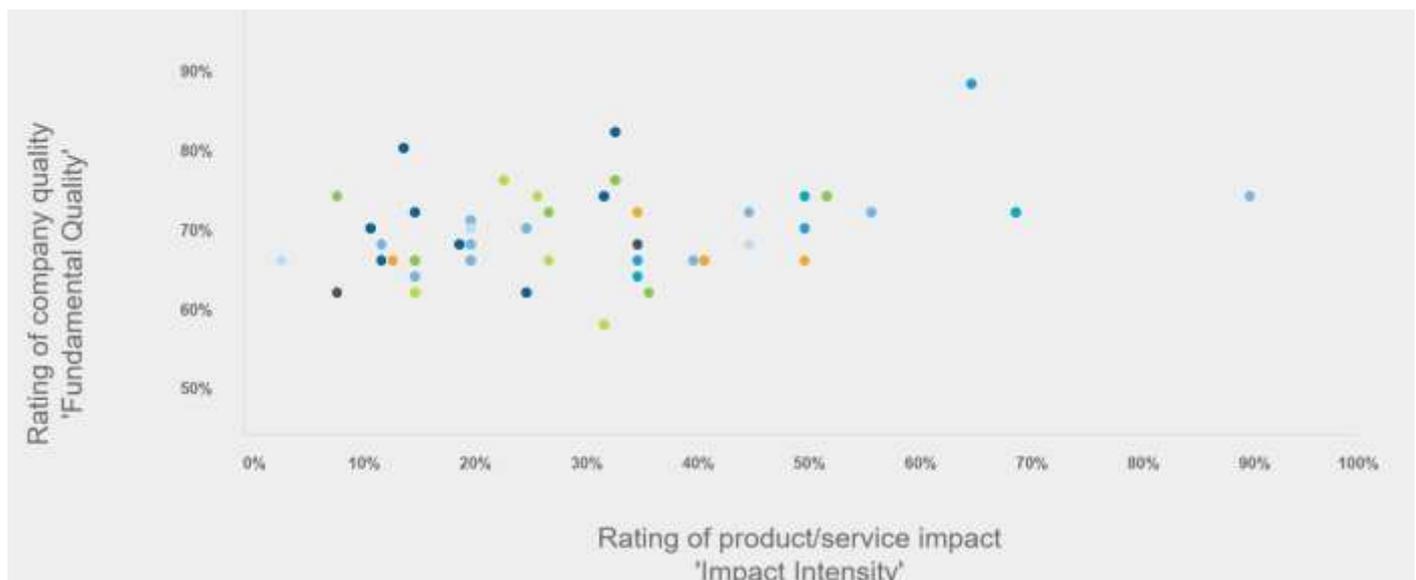


Assessing the quality of company policies and practices

In addition to the impact of the products/services provided by our portfolio companies (what they do), the WHEB investment process also assesses the fundamental quality of a company's policies and operational performance (how they do it). The analysis considers five aspects of business operations: market attractiveness, competitive position, value-chain operations, management quality and growth strategy and gives each a score which adds up to the 'WHEB quality score' ranging from 0-100. In assessing the fundamental quality of each aspect, we consider a range of measures relating to both financial and environmental, social and governance ("ESG") management and performance.

Figure 5 below illustrates the overall mapping of portfolio holdings in WHEB's investment strategy as at the end of 2019 with the impact intensity score on the x-axis and the quality scores plotted on the y axis. Our ambition is to ensure that over time, the portfolio as a whole is composed of higher quality and higher impact businesses. This would be evidenced through a migration towards the top right quadrant.

Figure 5: Mapping company quality and impact (as at 31/12/2020)



Calculating company impact

As described above, WHEB's investment process involves collecting data on the positive impact associated with the products and services sold by companies in the strategy. Many companies publish information on the product/service impact without collating this on a company-wide basis. In some cases, companies may collate data, but do not report it on an annual basis. Others may not report this data at all, or it may be in a format that is not possible to aggregate.

Where data is made available by the company, we use this data to calculate the impact of a company's products over the period that the stock was held in the portfolio. For example, if a company is held in the portfolio for only six months, we will calculate the company's impact over this period.

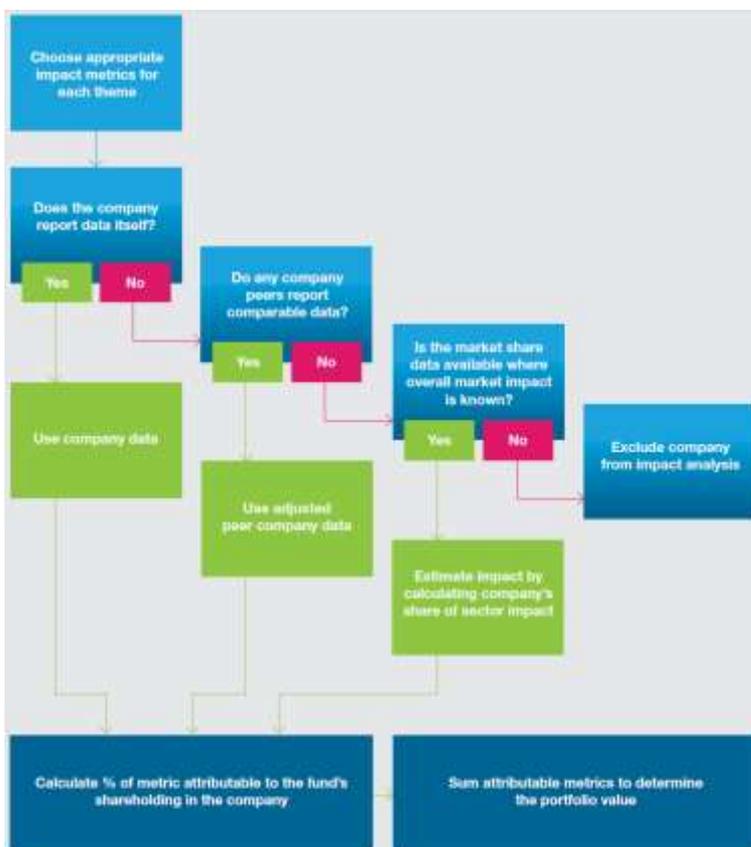
In a significant number of cases, the data provided by companies may be incomplete or unclear. Where this is case, we contact the company to clarify these issues. This quality assurance process typically involves clarifying the timeframe or baseline used by the company in generating the data. We also request information on the reliability of the data. For example, has the data been audited by a credible third party and/or has the underlying methodology been published? We may also triangulate the data using third party data sources to corroborate data points.

Where companies do not self-report complete datasets, we use a variety of estimation methodologies to determine company level impact.

- In some cases, we have been able to use data that is reported by peer companies as a proxy. If we know the product-level impact, we can estimate company level impact based on the number of products or services that are sold.
- Where peer data is not available, we may be able to estimate impact by using information on the market share that a company has, and then using this to estimate the number of products sold.
- Where none of the above applies, we exclude the company from the analysis.

The ‘decision-tree’ in Figure 6 below illustrates how we select the best method for calculating company impact data.

Figure 6: Calculating company impact



Further calculations and assumptions

Impact data that we receive from companies may need to go through a series of additional steps in order to be used in reported impact metrics for the fund. Depending on the data reported by companies, these additional steps can include:

- Converting from electricity saved into tCO₂e avoided (or vice-versa): Some companies report the amount of electricity that the company's products save in a year in MWhs. We can convert this data into tCO₂e by analysing the company's geographical sales and using grid carbon intensity metrics of the different geographies to calculate an overall blended carbon intensity per MWh of electricity saved⁶.

- Impact data across the lifespan of the product: *Instead of reporting data on an annual basis, some companies may report impact metrics on a whole of life basis for a product or for periods of more than one year. In these cases, we use data on the expected lifespan of the products and assume that the savings are equally weighted across the period.*
- Capacity factors: *For some products, the rated capacity may not actually equate to the real-world performance. For example, wind-turbines do not operate at 100% of their capacity. We therefore use average capacity factors for the different technologies to calculate the real-world operational characteristics of the equipment⁷.*

In cases where we estimate impact data based on peers or market share data, we also make a variety of assumptions in order to calculate the impact data. These assumptions can include:

- Baseline assumptions: *A key assumption relates to the ‘baseline’ that we use to assess the positive impact generated by the product in question. Ideally, the baseline should relate to the average performance of an equivalent product or service available for sale on the market. For example, in assessing the positive impact associated with hybrid or battery electric vehicles (BEVs), we consider the tCO₂e that are avoided by using the hybrid or BEV rather than an alternative new vehicle with average carbon emissions⁸. The difference between the two is the avoided tCO₂e that we attribute to the hybrid or BEV. In practice, this data may not always be available. Where this is the case, we may rely on alternative sources. In the vehicle example above, the baseline we use might, for example, be the average emissions of a car on the road⁹.*
- Number of products/services: *Where the company does not self-report the numbers of products/services, we rely on proxies provided by the company or on market data or estimates. For example, for companies that own hospitals or care homes, we source data on the number of beds in these facilities, but not on the number of patients or residents per year which is likely to be considerably more. In some cases, we also rely on overall revenue figures for particular product segments. We then make an assumption about the average cost of an individual product unit in order to calculate an estimate of the number of products sold in an annual period.*
- Share of impact: *As equity investors, we often invest in companies that sit in the value-chain and deliver products or services to other companies. These other companies are then responsible for delivering the final product or service that generates the positive impact. While there is a risk of double-counting (see below), we typically attribute the full positive impact of the end product to component suppliers. However, where there is clear evidence of double-counting, we have adjusted impact numbers to eliminate this.*
- Variety of product models: *Many of the businesses that we invest in manufacture a large – and sometimes very large – number of products. Given the complexity involved, we do not attempt to model and calculate the impacts associated with each of the different model types. Instead, we attempt to group products into broad categories and make an assumption about the average positive impact associated with the product group. We often receive input from the company in question in making these assumptions.*

In 2020 this methodology was peer-reviewed by the Carbon Trust and found to be properly prepared on the basis of reasonable assumptions and estimations and formulated in line with recognised international best practises for impact reporting. For further information please see the Carbon Trust statement at the end of this methodology document.

In addition, in subsequent years the data reported in the WHEB impact report has been reviewed by the Carbon Trust. These reviews found that our approach was ‘fit for purpose and provides a reasonable basis for impact calculations’ and that the data used ‘is of reasonable quality’. Please see WHEB’s impact reports (available at <https://impact.whebgroup.com/impact-reports/>) for further information.

Calculating the impact of the strategy

Having calculated the positive impact over the year that is associated with the products and services of each company, we then calculate the positive impact associated with the investment strategy’s specific holding in the company. The

total positive impact of the company is multiplied by the fraction of the company's total enterprise value including cash (EVIC)¹⁰ that is owned in the strategy at the end of the calendar year. This gives the positive impact associated with the strategy's investment in that company.

*The positive contributions from each company are then grouped according to the mapping illustrated in Figure 2 and summed to give the total impact of the strategy on each indicator. This data is then converted into impact per pound (£) of investment by dividing by the amount of money in the strategy. It is this **data that underpins the 'impact calculator'**.*

Figure 7: The 2019 impact calculator (covering calendar year 2019)

**The positive impact associated with owning
£1m in WHEB's investment strategy in 2019**



An interactive version of this impact calculator is available at www.impact.whebgroupp.com/impact-calculator/

Avoided emissions in context

Delivering economic development that is sustainable requires the use of technologies and business models that have a significantly lower environmental footprint than has previously been the case. These technologies provide a critical contribution in reducing the negative environmental impacts associated with the global economy. However, while a necessary condition, enabling technologies do not on their own make a sufficient contribution to ensure sustainable development. The avoided emissions they generate come from the delta between legacy technologies and businesses and the new approaches that replace them. They arise from a relative improvement in emissions compared to a business as usual (BAU) scenario. This relative improvement is not the same as an absolute reduction in environmental damage.

Understanding the role played by enabling technologies in avoiding emissions is important, in our view. It is equally critical, however, to recognise that on their own, avoided emissions are an inadequate framework to deliver a zero carbon and more sustainable economy. Alongside the measurement of avoided emissions, we also need to understand absolute levels of emissions. Ultimately it is these absolute levels that will determine whether development is genuinely sustainable.

Impact ‘ownership’

It is also important to make clear that, as investors, neither WHEB, nor our clients ‘own’ the positive impact associated with investments in the WHEB strategy. In a real sense, it is not even ‘owned’ by the companies that WHEB invests in. It is visible instead in the impact of the ultimate user of the product or service; the owner of the electric vehicle, the homeowner who buys renewable power or the hospital that delivers life-saving therapies. These are the individuals or institutions that generate the positive impact by using products and services supplied by investee companies.

As managers of our clients’ money, our role is to ensure that these assets are invested in a way that enables and is aligned with these positive outcomes. WHEB’s Impact Calculator is a tool that is intended to connect investors with the positive role their money plays by illustrating how a given investment is associated with a range of positive real-world impacts.

Weaknesses in the data

The quality and accuracy of the final strategy-level metrics are ultimately determined by the quality of the underlying data. Several methodological challenges remain in calculating strategy-level impact data. We describe four in Figure 8 that we have experienced in our work. We have also provided an assessment of the challenge and the likely impact on accuracy of the data.

Figure 8: Sources of weakness in the data

Weakness	Estimated effect on impact measurement	Explanation
Underlying data quality	Medium	We rely on company reported data. However, this data is likely to be based on estimations and assumptions. As part of the process of data review undertaken by the Carbon Trust, all data included in the report is assessed for its completeness, consistency, reproducibility, data source reliability and its time period and geographical match. We believe that this process has helped to significantly improve the quality of underlying data. However, we believe that sources of errors in company reported data remain a source of potential errors in reported data.

Baseline selection	High	The selection of an appropriate baseline is clearly critical in assessing the extent of positive change created by a product or service. Our preferred approach is to compare the performance of the product or service against a baseline which reflects the performance associated with the most widely used alternative available for sale on the market ¹¹ .
Double-counting	Low	'Double counting' occurs when a positive impact is counted twice (or more) along a product's value-chain. For example, counting the positive impact from the operation of a wind turbine while also crediting positive impact to the manufacturer of their turbines. In our view, the actual effect is likely to be limited at a portfolio level given the strategy's wide end market dispersion.
Time-frames	Low	Companies report data at different times of the year. Inevitably therefore the impact calculation is based on a mix of data from one year and the following year. In practice, however, year on year changes are usually modest and the effect we believe is therefore likely to be minimal.

We have no doubt that there are other sources of error in our calculations, but believe the above are the principal ones. We will continue to refine our methodology and work with investee companies to improve the quality of the data that they report on their impact.

Reporting and transparency

We report quarterly on changes to the portfolio map (Figure 5) as part of our regular reporting to clients. These reports are publicly available from the WHEB website¹². Quantitative impact data has also been published in an annual Impact report since 2017¹³. Additional information on the WHEB investment strategy including how it supports the UN Sustainable Development Goals and examples of engagement with portfolio companies are available from our Impact website¹⁴.

Independent review by the Carbon Trust



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14th May 2020

WHEB Asset Management LLP's Impact Measurement Methodology – Peer Review

Dear Seb,

The Carbon Trust has conducted a peer review of WHEB LLP's Impact Measurement Methodology ('**The Methodology**'). The purpose of the peer review was to provide WHEB LLP with the Carbon Trust's opinion on whether the Methodology:

- is likely to result in an accurate impact report of their investments; and
- is based on reasonable assumptions and estimations; and
- is formulated in line with recognised international best practices for impact reporting.

In order to reach its opinion, the Carbon Trust reviewed the Methodology against the following standards and guidance:

- The Avoided Emissions Framework (AEF) by Mission Innovation
- Recent reports by Platform Carbon Accounting Financials (PCAF)
- Impact Investing Market Map by UN Principles for Responsible Investing (UNPRI)
- IRIS+ by the Global Impact Investing Network (GIIN)
- Harmonized Framework for Impact Reporting by International Capital Market Association (ICMA)

Furthermore, the Carbon Trust drew on its sectoral expertise and professional judgement to review the assumptions and calculations and validity of the seven impact areas, namely:

1. Clean Energy
2. Resource Efficiency
3. Sustainable Transport
4. Environmental Services
5. Water Management
6. Health
7. Other: Safety, Well-being and Education

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Opinion Summary

In the Carbon Trust's opinion, WHEB LLP's Impact Measurement Methodology is properly prepared on the basis of reasonable assumptions and estimations and is formulated in line with recognised international best practises for impact reporting. Furthermore, based on our examination of the Methodology and sectoral calculations, nothing has come to our attention which causes us to believe that its use would not provide a reasonable basis for the production of an annual impact report.

For and on behalf of
The Carbon Trust,



Morgan Jones
Head of Assurance

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¹ <http://www.thegiin.org/cgi-bin/iowa/resources/about/index.html#2>

² *Ibid*

³ *'Impact investing in listed equities – WHEB's perspective', WHEB, 2021* (<https://impact.whebgroup.com/white-papers/>)

⁴ *Particularly helpful in this regard were the papers produced by among others, the Working Group of Dutch financial institutions and companies* (https://www.dnb.nl/en/binaries/SDG%20Impact%20Measurement%20FINAL%20DRAFT_tcm47-363128.PDF?2018020717), *the University of Cambridge's Institute for Sustainability Leadership* (<https://www.cisl.cam.ac.uk/publications/publication-pdfs/impact-report.pdf>) and reports by *EQ Investors and Tribe Impact Capital*.

⁵ *In particular we have used the frameworks developed by the Impact Management Project* (<https://impactmanagementproject.com/>) and the *Future Fit Foundation* (<https://futurefitbusiness.org/>)

⁶ We access grid carbon intensity data from Ecometrica (<https://ecometrica.com/>), who source this information from a variety of official sources including the International Energy Agency, Intergovernmental Panel on Climate Change (IPCC) and the UK's Department of Business, Energy and Industrial Strategy (BEIS).

⁷ Average capacity factors across different geographies are sourced from the International Renewable Energy Agency (https://irena.org/-/media/Files/IRENA/Agency/Publication/2019/Jul/IRENA_Renewable_energy_statistics_2019.pdf).

⁸ Ideally the baseline will compare products or services using full life-cycle emissions. Where this is not available, comparisons are made only where the most material aspects are covered.

⁹ Baseline selection is done on a case-by-case basis, but we have been guided by the Avoided Emissions Framework (AEF) developed by Mission Innovation for different markets (for more information see [https://misolutionframework.net/pdf/Net-Zero_Innovation_Module_2-The_Avoided_Emissions_Framework_\(AEF\)-November_2019.pdf](https://misolutionframework.net/pdf/Net-Zero_Innovation_Module_2-The_Avoided_Emissions_Framework_(AEF)-November_2019.pdf))

¹⁰ While not wholly uncontroversial, EVIC is the denominator that is used in the global GHG Accounting and Reporting standard that has been developed by the Partnership for Carbon Accounting Financials (PCAF) - see <https://carbonaccountingfinancials.com/files/downloads/PCAF-Global-GHG-Standard.pdf>.

¹¹ *Op. cit.* 8

¹² <http://www.whebgroup.com/investment-strategy/fp-wheb-sustainability-fund/quarterly-reports/>

¹³ <http://www.impact.whebgroup.com/>

¹⁴ *Ibid*