



# Green Investment Partners

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## Impact Report 2023



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**NET ZERO ASSET  
MANAGERS  
INITIATIVE**

*Signatory of:*

 **PRI** Principles for  
Responsible  
Investment

**UKSIF**  
UK Sustainable Investment  
and Finance Association



**SUSTAINABLE  
DEVELOPMENT GOALS**

## Executive Summary

In recent years cleantech companies have been boosted by periods of strong growth, fossil fuel energy security concerns and significant policy support, such as the US Inflation Reduction Act and further initiatives in Europe, Japan and China. According to the International Energy Agency (IEA), \$1,617 billion was invested in renewable energy technology in 2022 with investment expected to rise by 24% between 2021 and 2023, compared with a 15% rise in fossil fuel investment over the same period. For every dollar invested in fossil fuels, about 1.7 dollars are now going into clean energy<sup>1</sup>. Not only does sustainable investing play a crucial role in the transition to decarbonise the economy, we see this as an attractive long-term investment opportunity.

Green Investment Partners Limited (GIP) aim to achieve long-term capital appreciation by investing in sustainable companies that contribute to a reduction in global greenhouse gas (GHG) emissions. In 2022, we estimate that a €1m investment in the portfolio emitted 352 tCO<sub>2</sub>e across scope 1, 2 and 3 (annualised) and avoided 1,149 tCO<sub>2</sub>e GHG emissions (annualised).

Figure 1: Impact highlights

Indicator	Unit	2022
<b>Scope 1 GHG emissions per €1m invested (annualised)</b>	tCO <sub>2</sub> e	46
<b>Scope 2 GHG emissions per €1m invested (annualised)</b>	tCO <sub>2</sub> e	7
<b>Scope 3 GHG emissions per €1m invested (annualised)</b>	tCO <sub>2</sub> e	299
<b>Avoided GHG emissions per €1m invested (annualised)</b>	tCO <sub>2</sub> e	1,149
<b>Renewable energy generated<sup>2</sup></b>	GWh	439,000
<b>Waste recovered and/or treated<sup>3</sup></b>	Kt	14,826

<sup>1</sup> [World Energy Investment \(2023\) International Energy Agency](#)

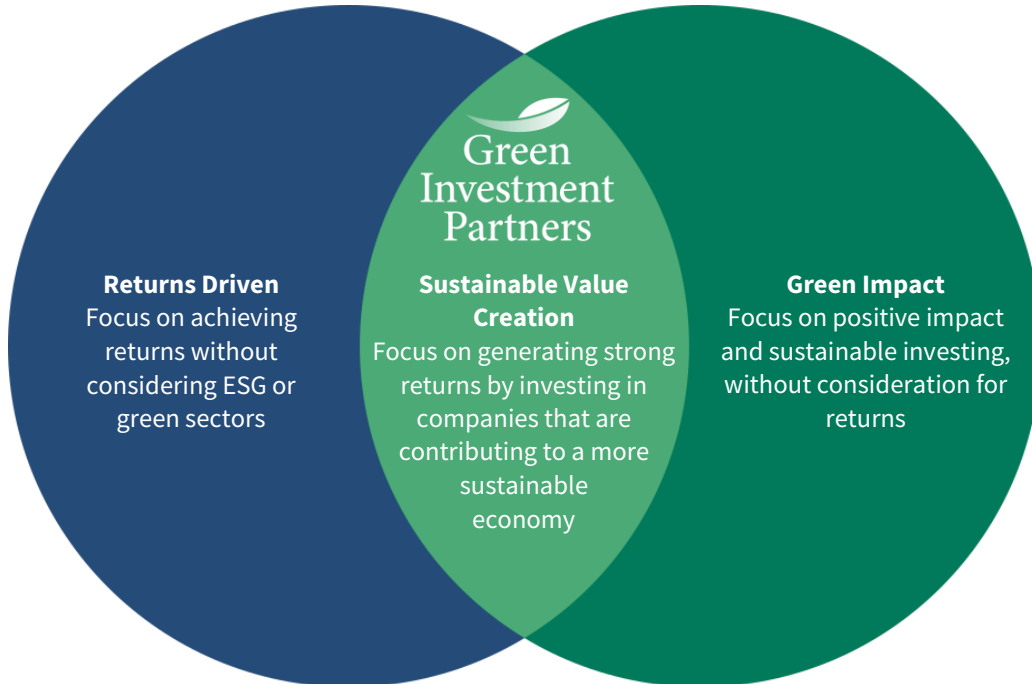
<sup>2</sup> This value represents the total renewable energy generated over fiscal year 2022 by the entire companies held within the portfolio as of 30-Dec-22. Estimated from 2022 company reporting, where available, latest available data or internal estimates. 10 companies reported out of 19.

<sup>3</sup> Total hazardous and non-hazardous waste recycled or recovered over fiscal year 2022 by the entire companies held within the portfolio as of 30-Dec-22. Estimated from 2022 company reporting, where available, latest available data or internal estimates. 9 companies reported out of 19. Materials and waste recovered may include hazardous and non-hazardous materials, scrap metals, and coolant, depending on the sector. This estimate omits wastewater discharge recycling as few companies reported on this during the period.

## Responsible Investing

We treat our investors as long-term partners and invest alongside them. We invest responsibly by combining both financial and sustainability factors when evaluating companies.

Figure 2: Our mission is to create sustainable value through generating returns and green impact

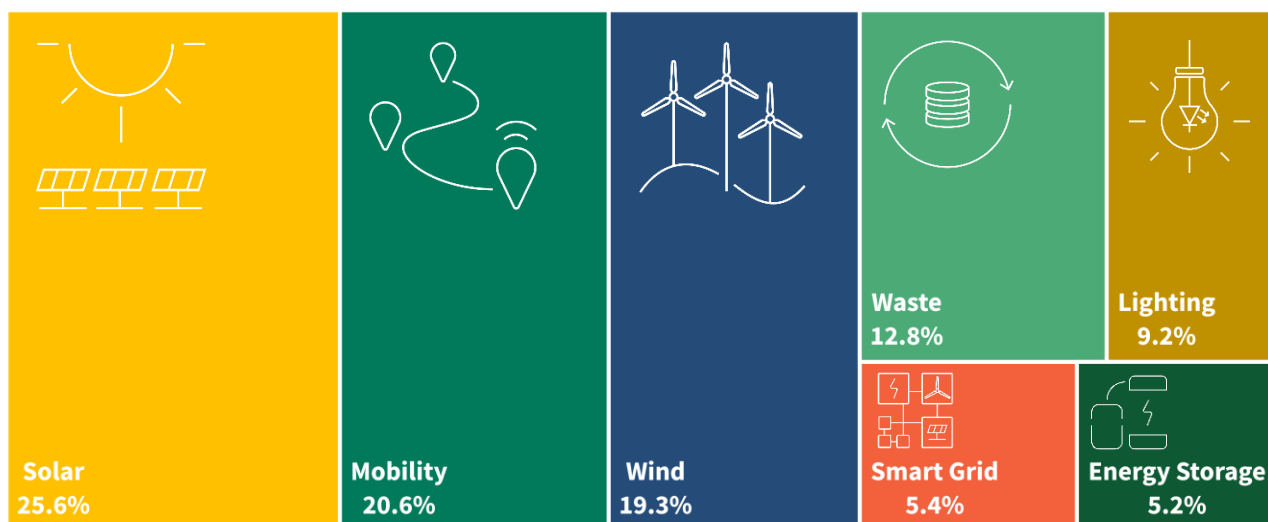


We apply a sustainable criteria via top-down sector research and bottom-up qualitative and quantitative analysis. We select a concentrated portfolio of companies from a green investable universe of over 450 companies from across renewable energy and cleantech sectors. Figure 3 lays out the portfolio composition by industry as at the end of the reporting period, consisting of companies that generate more than 50% gross revenues or operating income from green sector activities. We do not invest in companies that have a certain level of exposure to, or ties with, sectors including thermal coal extraction and generation, oil exploration, drilling, refining and production, controversial weapons (e.g. nuclear, cluster munitions, biological-chemical, landmine, or incendiary weapons), civilian firearms, tobacco, casinos, and gambling. We may also exclude a particular company, sector or country on environmental grounds or if they are found to breach any of the social principles of the UN Global Compact<sup>4</sup>. During the reporting period we have engaged directly with management teams on environment and social topics, based on our responsible investing philosophy. We will divest if a company's activities no longer align with our green sector criteria. Please refer to our Responsible Investing Policy<sup>5</sup> for further details on our inclusion and exclusion criteria, reporting methodologies, and active ownership approach.

<sup>4</sup> [The Ten Principles of the UN Global Compact \(2000\) United Nations](#)

<sup>5</sup> [Green Investment Partners' Responsible Investing Policy \(2023\)](#)

Figure 3: The industrial composition of the portfolio as at 30-Dec-22 (excluding cash)



Whilst impact disclosures and reporting are becoming more common, it is still in its infancy. Currently there is no global framework, which means that companies and asset managers are open to develop their own approach, leading to inconsistencies. As a result, we try to analyse the impact of our portfolio transparently with the data and resources available to us. Since publishing our inaugural impact report last year, we have improved the scope of our impact monitoring, including the disclosure of investee engagement activities, biodiversity conservation initiatives, and comparative data against the baseline year. In addition, in 2022 we published sustainability-related disclosures<sup>6</sup> and a Principle Adverse Impact Statement<sup>7</sup> in line with the reporting requirements as per Article 9 of the European Union’s Sustainable Finance Directive Regulation (SFDR). We continue to improve our impact reporting framework and methodology each year, as data and reporting requirements become increasingly standardised, accessible and reliable over time.

### Industry Collaboration

In addition to our impact reporting, GIP is an active signatory of the UN Principles for Responsible Investment (UN PRI) and the Net Zero Asset Managers Initiative (NZAMi). We are also members of the UK Sustainable Investment and Finance Association (UKSIF)<sup>8</sup>, an association representing 300+ financial services firms managing over £19 trillion in assets. As a representative of UKSIF’s Membership Committee, we act as an ambassador between UKSIF and the wider financial services industry, generating dialogue and knowledge exchange between stakeholders and working to shape the UK’s policy and approach to sustainable finance. Please refer to Appendix I: Regulatory & Market Standards Review for further information on our obligations as signatories and members of each association.

We welcome questions and input from current and prospective investors on our impact reporting. If you wish to get in touch with us, please contact the team at [ir@greeninvestp.com](mailto:ir@greeninvestp.com).

**Fabian Leonhardt**

*Founder & Portfolio Manager*

**Joshua Cole**

*Founder & Portfolio Manager*

<sup>6</sup> [Sustainability-Related Disclosures \(2022\) Green Investment Partners](#)

<sup>7</sup> [Principle Adverse Impact Statement \(2022\) Green Investment Partners](#)

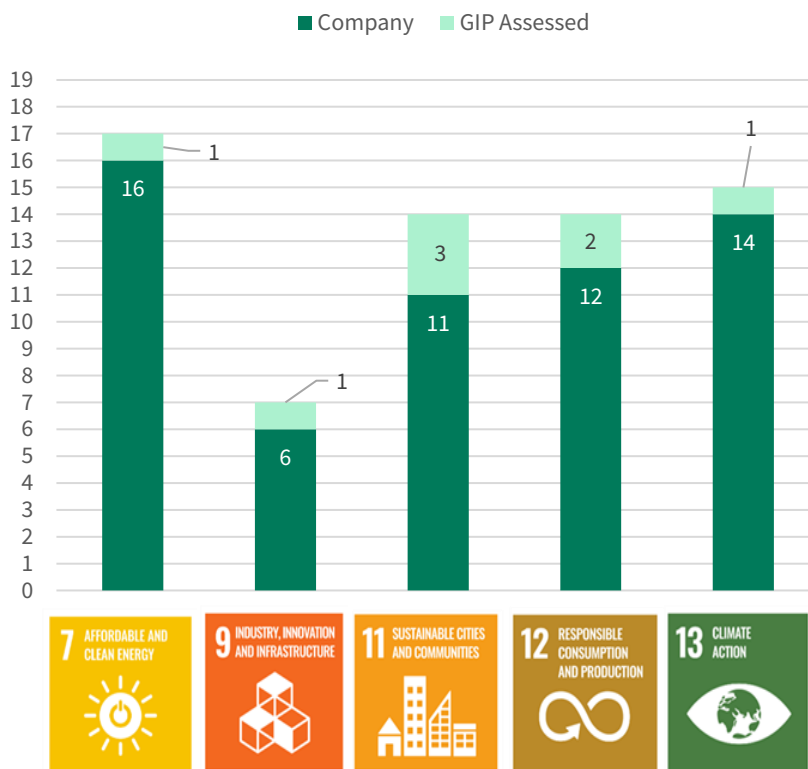
<sup>8</sup> [UK Sustainable Investment & Finance Association \(UKSIF\)](#)

## United Nations Sustainable Development Goals (SDGs) Impact Mapping

We believe the companies in which we invest contribute to the progression of the United Nations SDGs. We conducted an impact mapping exercise, matching business activities to relevant SDG targets, and found the portfolio primarily contributes towards 5 of the 17 SDGs. These are affordable and clean energy (SDG7), industry, innovation and infrastructure (SDG9), sustainable cities and communities (SDG11), responsible consumption and production (SDG12) and climate action (SDG13). Several companies in our portfolio also align their operations directly and/or indirectly with further SDG targets, most notably good health and wellbeing, as well as water and sanitation.

In Figure 4, the dark green shows where a company has stated their alignment to the target in their sustainability reporting. Light green is where companies have not explicitly stated their commitment to the SDGs, but we have assessed alignment internally according to the business' operations and objectives.

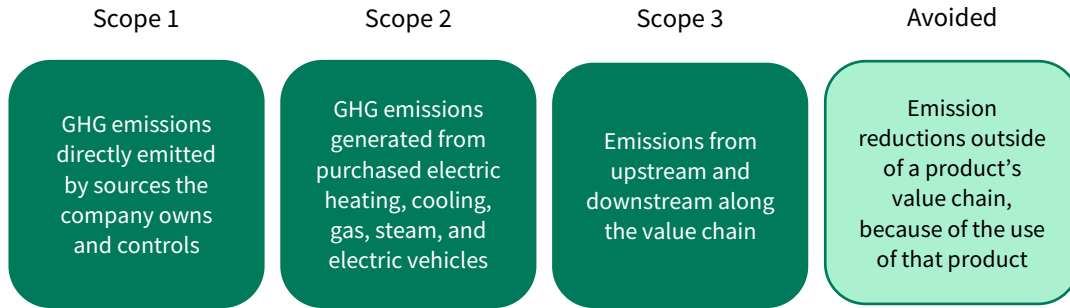
Figure 4: UN SDG mapping of portfolio alignment to GIP's target SDGs



## Measuring Greenhouse Gas (GHG) Emissions

A portfolio’s contribution to the reduction in GHG emissions can be calculated by estimating the GHG emissions from the investee companies’ activity, less GHG emissions that would occur in the absence of the investee companies’ products or services. This indicator is used in view of achieving the long-term global warming objectives of the Paris Agreement.

Figure 5: Definitions of emission scopes as defined by the Greenhouse Gas Protocol<sup>9</sup>



The availability, comparability and accuracy of this data is expected to improve as regulatory reporting standards are established and made compulsory across more sectors and regions. In this current report we rely on self-reported emissions data, third-party estimates and internal estimates, of which we have not had independently verified. We have estimated the emissions on a best efforts basis, please see Appendix II for a further discussion on the methods used, limitations and improvements.

In 2022, we estimate that a €1m of investment in the portfolio emitted 352 tCO<sub>2</sub>e across scope 1, 2 and 3 (annualised) and avoided 1,149 tCO<sub>2</sub>e GHG emissions (annualised), through activities such as developing wind farms, manufacturing solar panels, and selling electric mopeds. We have estimated emissions on an annual basis, for both emitted and avoided, by scaling the emissions by the estimated asset life, where appropriate. For example, if a company manufactures wind turbines with a 30 year asset life, we look at avoided emissions over a single year. To be consistent we have also annualised scope 1, 2 and 3 emissions emitted during that year by dividing the non-annualised emissions by the asset life. In addition, the companies we have invested in generated over 439,000 GWh of renewable electricity<sup>10</sup> and recovered or treated 15 million tonnes of material and waste.<sup>11</sup>

Figure 6: 2022 annualised GHG emissions both released and avoided of the Green Investment Partners’ portfolio (tCO<sub>2</sub>e per €1m invested, annualised)

	Carbon to Value Invested			
Units	tCO <sub>2</sub> e/€1m Invested			
Emissions Scope (Annualised)	1	2	3	Avoided
<b>Green Investment Partners</b>	46	7	352	1,149

<sup>9</sup> [Overview of GHG Protocol scopes and emissions across the value chain](#)

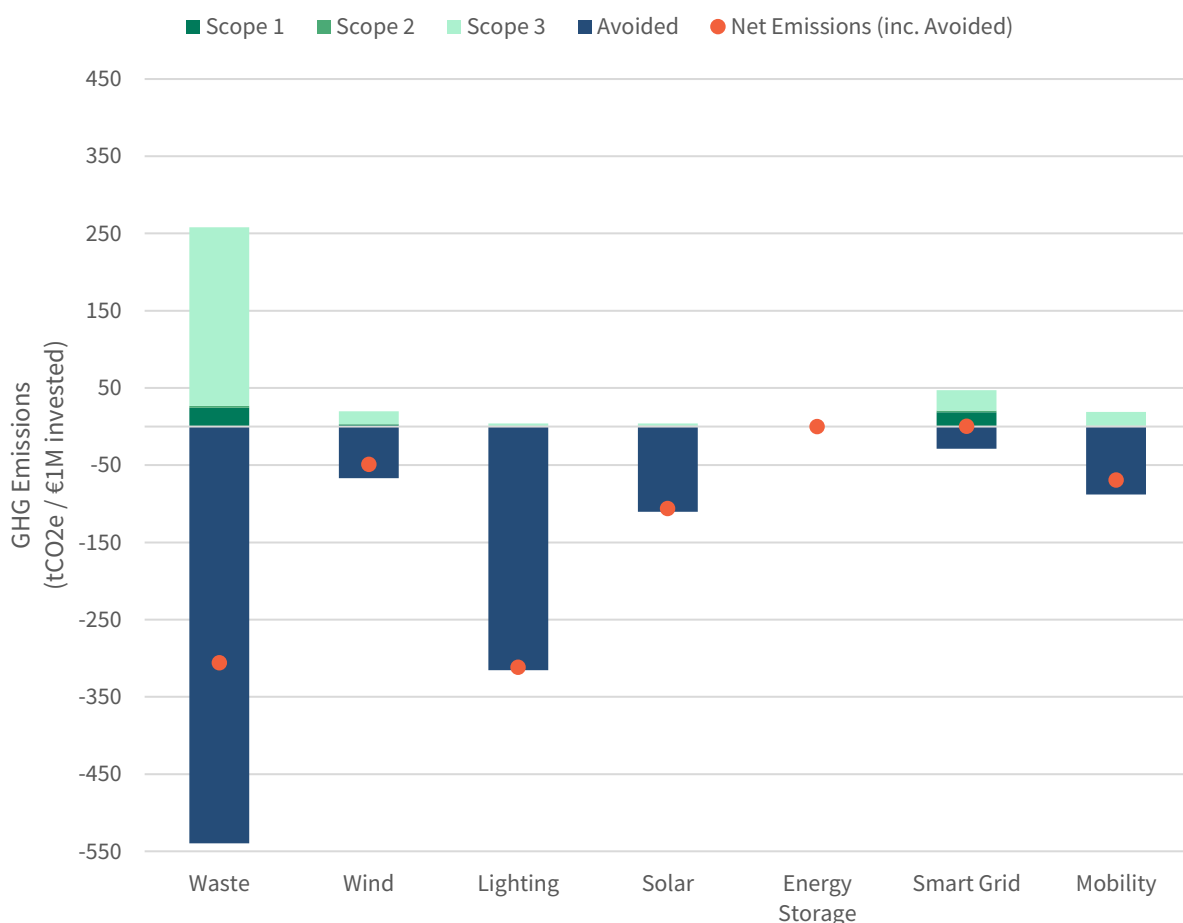
<sup>10</sup> Total renewable energy generated over fiscal year 2022 by the entire companies held within the portfolio as of 30-Dec-22. Estimated from 2022 company reporting, where available, latest available data or internal estimates. 10 companies reported out of 19.

<sup>11</sup> Total hazardous and non-hazardous waste recycled or recovered over fiscal year 2022 by the entire companies held within the portfolio as of 30-Dec-22. Estimated from 2022 company reporting, where available, latest available data or internal estimates. 9 companies reported out of 19. Materials and waste recovered may include hazardous and non-hazardous materials, scrap metals, and coolant, depending on the sector. This estimate omits wastewater discharge recycling as few companies reported on this during the period.

According to the Carbon Disclosure Project (CDP), most of a company’s emissions fall under scope 3, stating that supply chain emissions are on average 11.4x higher than operational emissions.<sup>12</sup> This is reflected in the GIP portfolio whereby scope 3 emissions tend to be significantly higher than direct emissions across all sectors and are estimated to account for 85% of total emissions. Scope 3 may include emissions from the production and consumption of raw materials and other commodities required in the production process, of which the company may have less control over compared to direct emissions.

Figure 7 displays the ‘Carbon to Value Invested’ by sectors. The energy-intensive waste sector has relatively higher scope 1, 2 and 3 emissions than other sectors, however the estimated avoided emissions are also greater. There is an interconnection between different sectors and emissions, for example as grid electricity generation becomes cleaner with more renewables, the scope 3 emissions of electric vehicles should reduce as users power them with cleaner energy.

Figure 7: 2022 GHG emissions both emitted and avoided of the Green Investment Partners’ portfolio by sector (tCO2e per €1m invested, annualised)

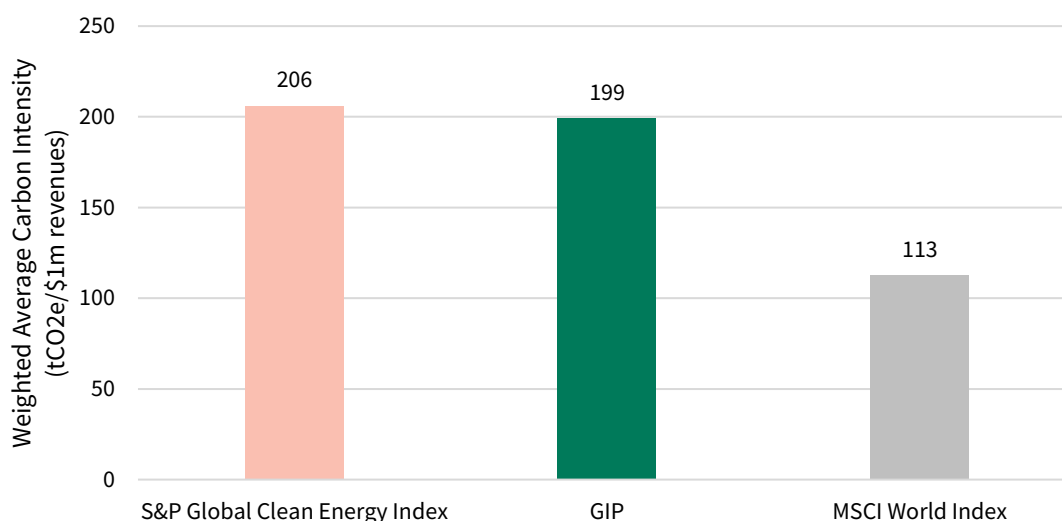


<sup>12</sup> [CDP Global Supply Chain Report \(2020\): Transparency to Transformation](#)



Figure 8 shows the weighted average carbon intensity (scope 1 and 2 only) in USD and non-annualised to help compare between the portfolio and the indices reported data. The MSCI World Index is a global large- and mid-cap equity index across developed markets.<sup>13</sup> The S&P Global Clean Energy Index measures the performance of companies in global clean energy-related business from both developed and emerging markets.<sup>14</sup> The Green Investment Partners portfolio had a weighted average carbon intensity 3% less than that of the S&P Global Clean Energy Index.<sup>16</sup> Weighted average carbon intensity does not measure a company’s total carbon emissions, it looks at scope 1 and 2 and normalises for company size – a large company with large carbon emissions, in absolute terms, may have a lower weighted average carbon intensity than a smaller company that pollutes less, in absolute terms, but emits more carbon per million of sales. Please note that for weighted average carbon intensity, the GIP portfolio emissions have not been annualised and are shown per million USD of sales to aid comparability.

Figure 8: Weighted average (scope 1 and 2) carbon intensity of the portfolio and indices as at 30-Dec-22<sup>15</sup>



## Climate Targets

The World Meteorological Organisation (WMO) predicted in July 2023 that there is a 98% likelihood that at least one of the next five years will be the warmest on record and there is a 66% chance of temporarily exceeding the Paris Climate Agreement’s limit of 1.5°C above the 1850-1900 average within this period.<sup>16</sup> As signatories of the NZAMI, we set a target in November 2022 for the entirety of our portfolio to be aligned with Science-Based Target Initiative-approved (SBTi) targets and/or commitments by 2030. We view the SBTi’s framework as the current highest standard for tracking the alignment of GHG emissions reduction targets of corporations to the goals of the Paris Climate Agreement – limiting global warming to 1.5°C above pre-industrial levels or well-below 2°C. To set science-based targets, companies must follow a rigorous process to develop an emissions reduction target in line with the SBTi’s criteria and submit the target for validation. A 2021 progress report indicated that the typical company with science-based targets has reduced its direct (scope 1 and 2) emissions at a linear rate of 6.4% per year, exceeding the 4.2% rate needed to limit warming to 1.5°C, according to pathways derived from climate scenarios. Recent analysis of 338 companies with approved science-based targets found they have reduced their combined emissions by 25% since 2015.<sup>17</sup>

Figure 9 shows that 26% of investee companies had set SBTi-approved targets or commitments at 30-Dec-22, an increase from 24% in the baseline year. We continue to monitor each company’s progress towards their environmental

<sup>13</sup> <https://www.msci.com/index-carbon-footprint-metrics>

<sup>14</sup> See ‘Factsheet’: <https://www.spglobal.com/spdji/en/indices/esg/sp-global-clean-energy-index/#overview>

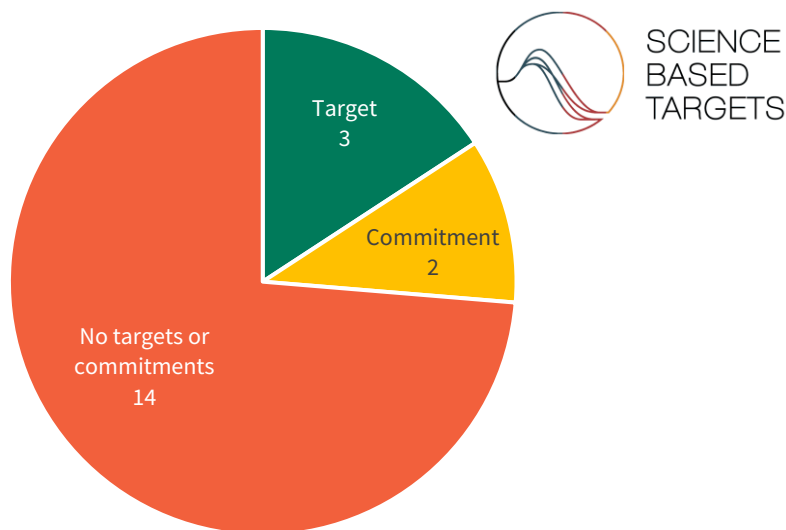
<sup>15</sup> The iShares Global Clean Energy ETF is used as a proxy for the S&P Clean Energy Index as of 21-Sep-23 and the iShares MSCI World ETF is used as a proxy for the MSCI World Index as of the 21-Sep-23

<sup>16</sup> [July is set to be the hottest month on record \(2023\) World Meteorological Organization](#)

<sup>17</sup> [From ambition to impact: How companies are reducing emissions at scale with science-based targets \(2021\) Science Based Targets](#)

targets comparatively year-on-year and engage with companies that are yet to set approved targets in order to track the portfolio’s contribution to a Net Zero economy in view of achieving the long-term global warming objectives of the Paris Agreement.

Figure 9: The portfolio coverage by number of investee companies with SBTi-approved near term or Net Zero targets and commitments as at 30-Dec-22



Many investee companies have also implemented and tracked other carbon reduction initiatives and goals within nearer and longer term timeframes, such examples are;

- Power global operations with 100% renewable energy
- Achieve carbon neutrality through a combination of GHG emissions reduction and carbon offsetting initiatives
- Reduce the carbon intensity of each tonne of waste collected by a certain amount annually
- Reduce scope 1 and 2 emissions on an absolute or intensity basis by a certain amount annually

It is important to note that where ‘carbon neutrality’ refers to the volume of carbon dioxide emitted equalling the amount of carbon absorbed through sinks and offsets, the concept of ‘Net Zero’ goes further to incorporate the removal and reduction of all major anthropogenic greenhouse gases (including nitrous oxides and methane) and human activity no longer contributing to global climate change.<sup>18</sup>

Although carbon neutral targets are a positive step in the right direction, we hope to see an increase of companies setting Net Zero and emissions reduction targets in line with the SBTi’s requirements as their overarching emissions goal, as carbon neutrality alone will not be sufficient in mitigating the imminent climate crisis. According to research published by BloombergNEF, a global annual investment of \$7 trillion into green technologies such as electric vehicles and renewable energy is required in order to reach Net Zero by 2050.<sup>19</sup>

<sup>18</sup> <https://www.nature.com/articles/s41558-021-01245-w>

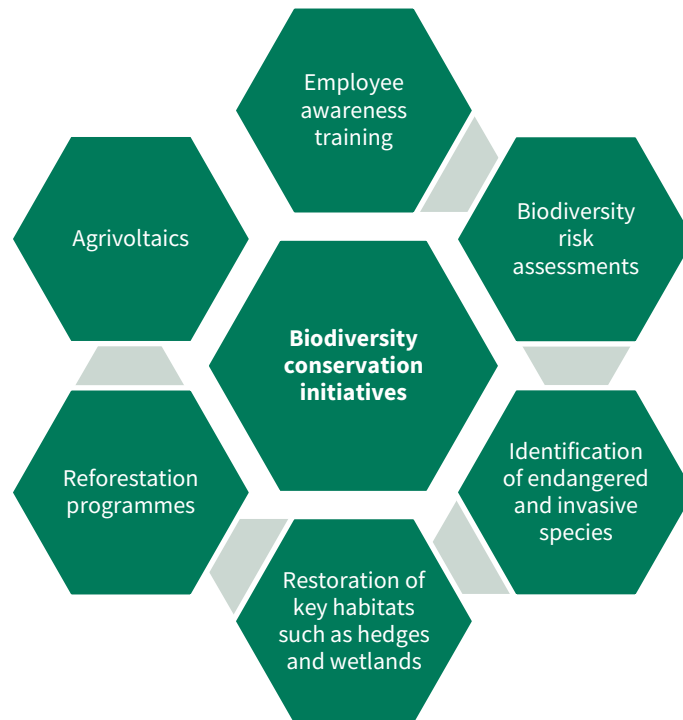
<sup>19</sup> [The \\$7 Trillion a Year Needed to Hit Net-Zero Goal \(2022\) BloombergNEF](#)

## Biodiversity and Nature

In 2022, the World Wildlife Fund (WWF) reported an average 69% decline in the relative abundance of monitored wildlife populations around the world between 1970 and 2018. Where Latin America shows the greatest regional decline in average population abundance (94%), freshwater species populations have seen the greatest overall global decline (83%).<sup>20</sup> As the earth's climate and ecology are intertwined, we understand that the sustainable energy transition cannot be carried out at the expense of nature. Therefore, we are working towards monitoring investee companies' impact on local habitats and wider ecological systems as a direct result of their work in the clean energy transition.

Of the 19 companies in the portfolio at the end of 2022, 6 companies disclosed that they had operational presence located within or within a certain proximity to protected areas with high biodiverse value. This includes, but is not limited to, more than 200 individual facilities located inside or close to areas designated as national parks, Ramsar Wetlands, Sites of Special Scientific Interest, or part of the Natura 2000 Network. It was identified in our analysis that all six of these companies plus a further three conduct environmental impact assessments or other risk assessment methods prior to project development. We also identified a total of 12 companies that reported on having implemented specific biodiversity conservation practices and initiatives as measures to reduce any negative impacts caused by operational activities, a selection of which are set out in figure 10 below.

Figure 10: A selection of identified biodiversity conservation initiatives implemented by investee companies during the reporting period



While the final version of the Taskforce for Nature-Related Financial Disclosures (TNFD) recommendations<sup>21</sup> published in September 2023 sets out a recommended approach for corporations to assess and quantify their operational impact on local ecology and wide ecosystems, one of the key challenges for investor reporting on biodiversity is the lack of data availability. Unfortunately, data related to biodiversity impacts and conservation is often limited. It is not always disclosed as to which regulation or law environmental impact assessments are aligned, or whether the assessments take an interdisciplinary approach applied across ecological systems. At the same time, the strong growth in demand for better quality nature data has helped to spur on a advancements in data generation and analytics. This presents an opportunity to improve the accuracy, collection, consistency and connection of data sets.

<sup>20</sup> [Living Planet Report 2022: Building a Nature-Positive Society \(2022\) World Wildlife Fund](#)

<sup>21</sup> [Taskforce on Nature-related Financial Disclosures Recommendations \(2023\), TNFD](#)

In 2023, the partner organisations that make up the TNFD carried out an insight study exploring the case for a global nature-related public data facility<sup>22</sup> by addressing how nature-related data challenges could enable and accelerate the uptake of corporate reporting and target-setting by business and finance. Please refer to Appendix I for further details on reporting standards and expectations. In future reporting cycles, we would like to see investee companies align reporting to TNFD recommendations and provide detailed data disclosure on the following;

- Operational proximity to protected and/or biodiverse areas
- The scope and methodology of environmental impact assessments carried out throughout project lifecycles
- Number of threatened species on the IUCN Red List<sup>23</sup> identified as being potentially affected by operational facilities
- Mitigative measures implemented as a direct response to any specific negative impacts caused or risks identified
- Target setting with reputable roadmaps in line with the near-term and long-term goals of the Global Biodiversity Framework<sup>24</sup>

## Social and Governance Risk

As active shareholders in global companies, we consider social and governance risks in addition to environmental contributions and concerns. We carry out an in-house analysis prior to making an initial investment, and continue to monitor social and governance-related implications which we use to identify portfolio risks and engagement priorities once invested. We use proprietary reporting and third party sources to assess each company on a selection of criteria to allocate a high, moderate, or low risk exposure in relation to each of the following four pillars;

<b>Employee relations &amp; human rights</b>	<b>Management structure</b>	<b>Staff remuneration</b>	<b>Taxation compliance</b>
<p>The company does not violate Principles 1 – 6 of the UN Global Compact and has processes to monitor compliance with and/or has no identified evidence of violating the OECD Guidelines for Multinational Enterprises and UN Guiding Principles on Business and Human Rights.</p>	<p>The company does not violate Principle 10 of the UN Global Compact and has a suitable supervisory board that effectively oversees management activities on behalf of shareholders. The supervisory Board has at least one independent board member.</p>	<p>The company has disclosed remuneration policies and Director’s remuneration figures that align with the long-term interests of the entity and shareholders. The gender pay ratio should be equitable.</p>	<p>The company has published unqualified audited financial statements and reports. The company has no significant controversies on taxation and accounting.</p>

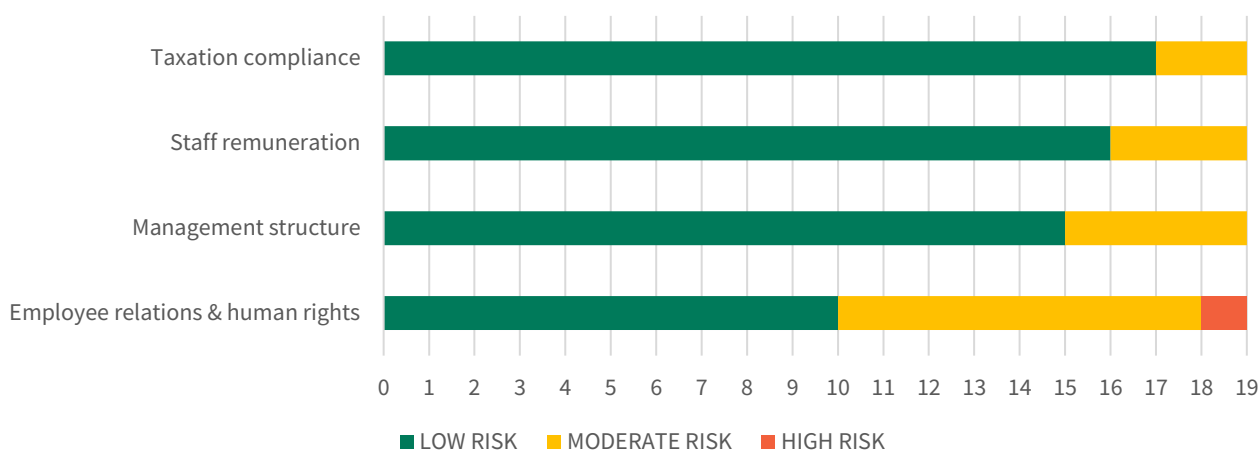
Where a company scores ‘moderate’ risk against any of the pillars, we will continue to monitor and, if deemed necessary, engage with the relevant management teams in order to further understand the issues and explore potential solutions and mitigation strategies. Where a company is allocated a ‘high’ risk exposure to any of the criteria, immediate outreach to the company will be made and potential divestment discussed internally on a case-by-case basis as per the company’s response.

<sup>22</sup> [Findings of a high-level scoping study exploring the case for a global nature-related public data facility \(2023\) TNFD](#)

<sup>23</sup> [The IUCN Red List of Threatened Species](#)

<sup>24</sup> [Kunming-Montreal Global Biodiversity Framework \(2022\) Convention of Biological Diversity](#)

Figure 11: Portfolio exposure to social and governance risks as at 30-Dec-22



Due to the nature of renewable energy and cleantech sectors having significant supply chain exposure to China, companies with operations in these regions tend to have a higher risk of being exposed to or accused of forced labour violations.<sup>25</sup> During the reporting period, allegations of forced labour were made against one portfolio company in China. No concrete evidence of forced labour in the company’s operations was disclosed or uncovered. A number of engagement attempts were initially unsuccessful, however a meeting did occur post-sale in late 2023. Part of the decision to divest from this company was related to the amount of company debt and the risk-return profile no longer meeting our investment hurdle, in addition to social and governance considerations. GIP continues to monitor and assess such considerations across investee companies.

## Engagement and Active Ownership

As a key component of our Responsible Investment Policy, our aim is to directly engage with companies and other investors to increase our impact. Engagement is a crucial tool to bring about positive change in society and represents productive and empowering shareholder action. We implement our own impact-focused monitoring process and sell discipline criteria. For example, divestment could occur as a result of a company no longer being involved in its green sector, a significant increases in exposure to coal or other non-green activities, or lack of appropriate action relating to material social violations. We actively engage with companies through:

- Shareholder voting
- Attendance and topic raising at management meetings in conjunction with other investors
- Outreach and conversation with senior management teams

During the reporting period we have increased our input as active owners, initiating dialogue guided by the results of our internal ESG assessments and participating in collaborative engagement initiatives with other shareholders. Figures 12 and 13 indicate the engagement activities by outreach methods and topics covered. The main engagement topics discussed with companies have been forced labour and human rights, ESG data disclosure, and science-based targets.

<sup>25</sup> [Murphy, L. and Elimä, N \(2021\): In Broad Daylight: Uyghur forced labour in global solar supply chains](#)

Figure 12: Engagement by method (%)

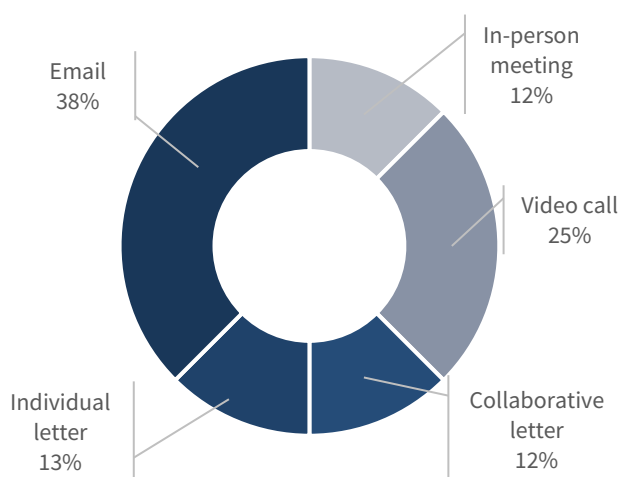
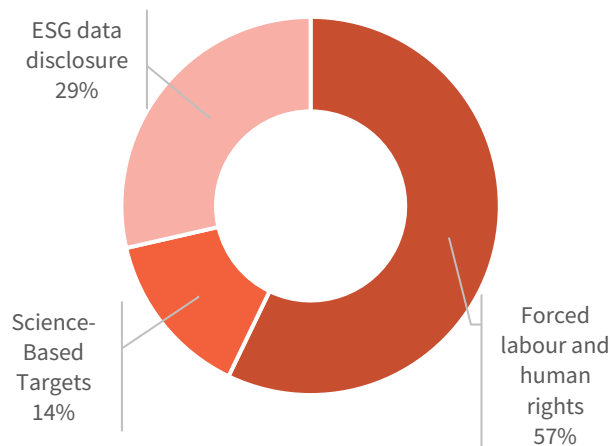


Figure 13: Engagement by topic (%)



### Forced Labour Within the Solar Supply Chain

There are on-going concerns regarding the allegations of forced labour within the solar supply chain and in particular where operations are located in the Xinjiang province. The topic continues to be investigated by researchers<sup>26</sup> and investors within these sectors have a responsibility to monitor the research and carry out enhanced due diligence on exposed companies.

Green Investment Partners engaged with a leading solar supply chain company with potential exposure to the issue. Despite engagement attempts, we could not gain comfort that the company was carrying out sufficient work to mitigate our concerns. We continued to maintain a dialogue with senior management through meetings and letters, setting out our requirements and targets that we expect the company to work towards, which fell into two categories:

- Conduct a third-party human rights audit in addition to internal social responsibility due diligence activities.
- Disclose mapping and assessment of the firm’s value chain, including upstream suppliers, downstream distributors, and global consumers. This should be verified with supporting documentation.

The company subsequently released a third-party labour due diligence report going partway to mitigating some of our concerns and saw this as a positive outcome from our engagement attempts. Despite this company not being held in the portfolio, on-going engagement forms an integral part of our impact philosophy and our wider responsibility within the sustainable investment industry.

<sup>26</sup> [Crawford, A. and Murphy, L. T. \(2023\), “Over-Exposed: Uyghur Region Exposure Assessment for Solar Industry Sourcing.” Sheffield, UK: Sheffield Hallam University Helena Kennedy Centre for International Justice.](#)

## Outlook

Since the last impact reporting period we have:

- Prioritised engagement with investee companies based on environmental, social and governance material risks identified during analysis to obtain and report improved quantitative and qualitative data. During the year, we initiated monitoring and disclosure of engagement by topic and methodology.
- Continued to monitor the year on year progress each investee company has made towards setting and complying with SBTi-approved targets in view of achieving the long-term global warming objectives of the Paris Agreement. In 2022 we saw an increase in SBTi-approved commitments and targets set across the portfolio from the baseline level.

However, we also wish to highlight a number of areas in which we endeavour to improve on:

- Continue to improve the methodology for GHG emissions reporting, in line with the latest scientific research, in particular scope 3 and avoided emissions. Although 11 companies reported some type of avoided emissions during the reporting period, we still need to target consistency and comparability amongst companies, which we hope will eventually be audited. This also applies to scope 3, where some companies only report on certain scope 3 emissions, which reduces effectiveness when comparing or aggregating companies. We will endeavour to rely less on estimates and push for full independently verified emissions disclosure.
- Evaluate and improve the historical data in future reports as more data and insight into the calculation methodologies become available. Therefore, the data provided in this reporting report may be restated in the future in order to improve consistency and comparability.
- Continue to monitor engagement activities and disclose where companies have achieved or not achieved the tasks and targets we have set for them as part of our engagement outreach.
- Utilise and leverage third party sources of biodiversity data and methodologies are developed and deployed in order to better understand and quantify the portfolio's positive and negative impacts on nature at a local and system-wide scale.
- As the UN PRI deferred signatory reporting in 2022, we wish to discuss the results of our inaugural submission completed in 2023 and utilise the results to enhance the robustness of our responsible investing strategy.

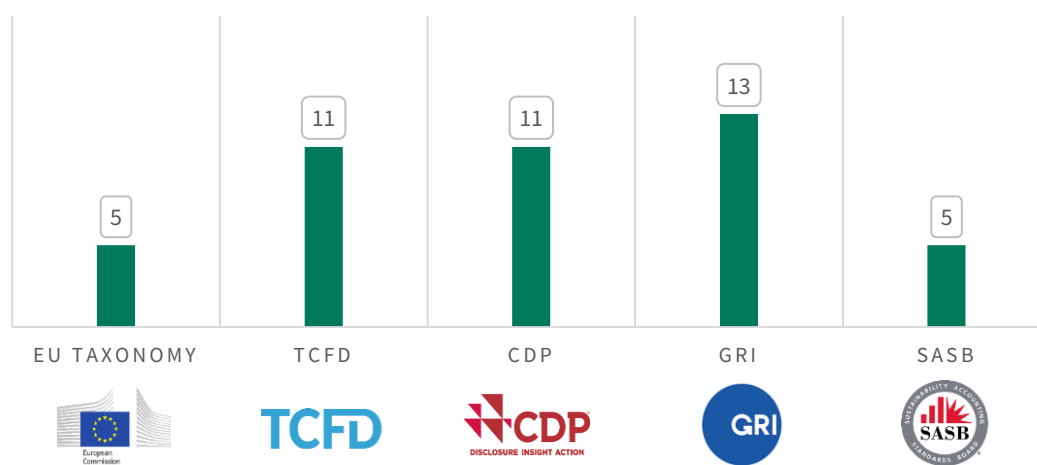
Overall, we continue to have a positive outlook on the renewable energy and cleantech sectors in 2023 and beyond. Despite the prevailing uncertainties in the global economy, the need to address global environmental issues has never been greater. We take our role as a sustainable investment manager seriously and we understand the reflexive impact our capital allocation decisions can have on the businesses we invest in. Consequently, we remain committed to ensuring our portfolio continues to provide long-term investment opportunities whilst actively contributing to the mitigation of global climate change effects.

## Appendix I: Regulatory and Market Standards Review

Globally, regulatory requirements and standards for sustainable investing are rapidly evolving, with regulators implementing disclosure and reporting initiatives in an attempt to tackle ‘greenwashing’ in the financial system. A survey carried out by EY found that 74% of surveyed companies use a rigorous and structured ESG reporting framework or approach, a sharp increase from 32% in 2018.<sup>27</sup> These results are in line with our own observations that the investee companies reporting has improved year on year.

Figure 14 below sets out the number of investee companies that have aligned their reporting methodologies with certain frameworks and standards. As a firm, we do not currently have an objective to achieve a minimum percentage of portfolio alignment to any reporting framework, such as the EU Taxonomy. However we do monitor the rigour and quality of each investee company’s ESG and sustainability disclosures each reporting cycle.

Figure 14: Company reporting alignment to selected global standards and frameworks as at 30-Dec-22



The pressure on businesses to comply with the discussed regulatory standards looks set to increase over the coming years, with varying levels of mandatory greenhouse gas emissions reporting for corporates already implemented or proposed in a number of jurisdictions, including the European Union<sup>28</sup> and the United Kingdom.<sup>29</sup> Although there is still no single agreed-upon reporting method for companies or investment managers, signs of consolidation were noted during the period. In particular, the International Financial Reporting Standards (IFRS) finalised the consolidation of the Sustainability Accounting Standards Board (SASB) framework into the International Sustainability Standards Board (ISSB) in August 2022,<sup>30</sup> as well as initiating collaborative work with the Carbon Disclosure Project (CDP) and the Global Reporting Initiative (GRI).<sup>31</sup>

Therefore, it appears the ISSB has the potential to provide a widely-accepted standard for corporate sustainability reporting. What remains to be seen, however, is if the tightening of disclosures and regulation will be successful in flushing out ‘greenwashing’ and facilitating the path to a net zero economy. The legislation and guidance needs to not only be streamlined, but also to be science-based and objective. Otherwise, we may risk seeing uncoordinated sustainability regulation reporting not achieve its intended aims.

<sup>27</sup> [How can corporate reporting bridge the ESG trust gap? EY Global Corporate Reporting and Institutional Investor Survey \(2022\) Ernst & Young](#)

<sup>28</sup> [Emissions monitoring and reporting \(2021\) European Commission](#)

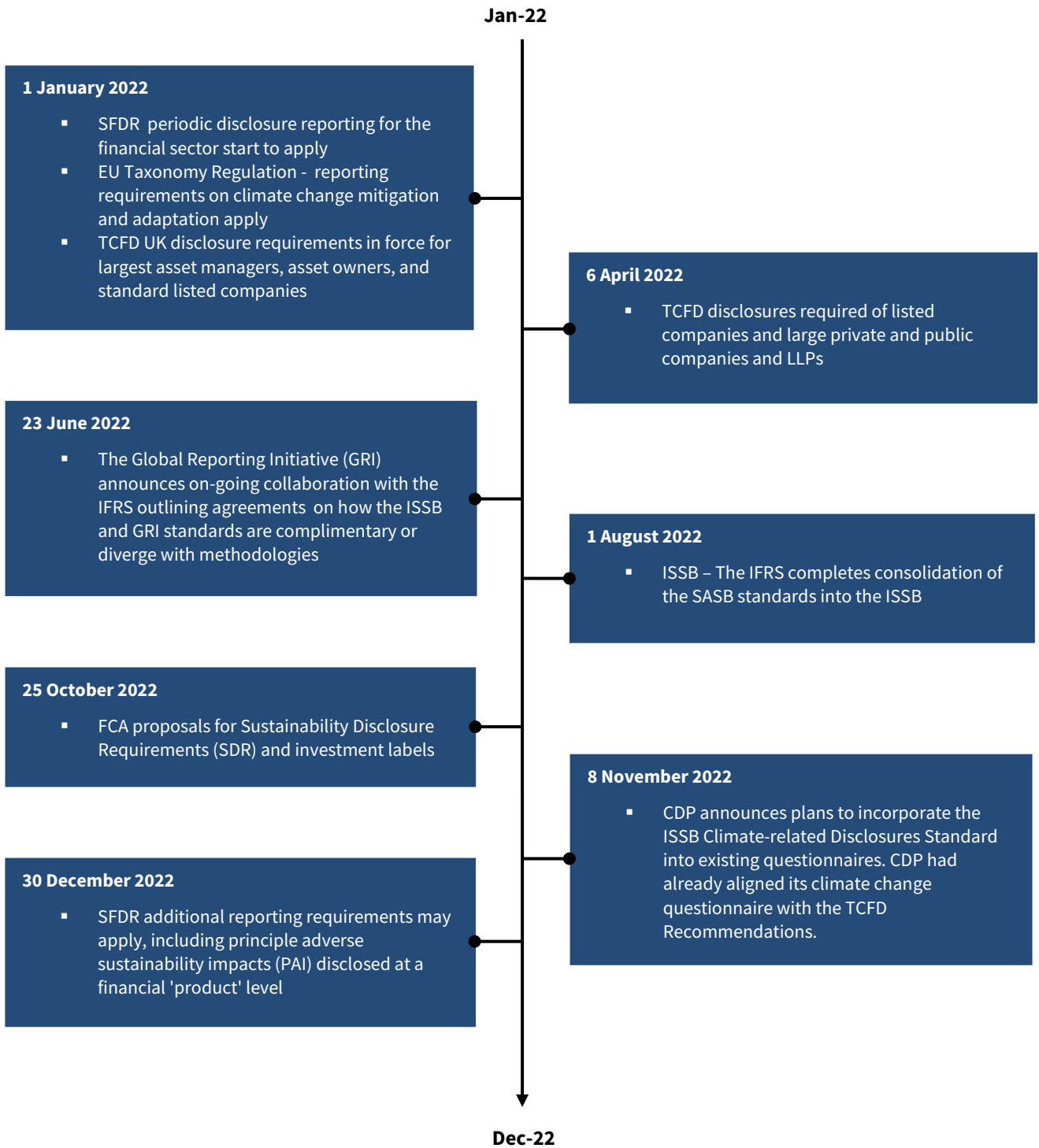
<sup>29</sup> [UK Sustainability Disclosure Standards \(2023\) UK Government](#)

<sup>30</sup> [IFRS Foundation completes consolidation with Value Reporting Foundation \(2022\) IFRS](#)

<sup>31</sup> [CDP and environmental disclosure standards and frameworks \(2023\) CDP](#)



Figure 15: Changes to reporting standards during 2022<sup>32</sup>



<sup>32</sup> <https://www.traverssmith.com/knowledge/knowledge-container/esg-timeline/>

## Glossary: Sustainability Reporting Standards, Frameworks and Initiatives

Term	Description
<b>EU Sustainable Finance Disclosure (SFDR)</b>	Supported by the EU Taxonomy, the SFDR requires reporting of detailed ESG data based on three levels of commitment to sustainability: (1) Article 6 products that do not consider sustainability, (2) Article 8 products that promote ESG characteristics and (3) Article 9 products that have sustainable investment as a core objective. 40% of funds were shifted by asset managers from Article 9 to Article 8 categorisation in the final three months of 2022. <sup>33</sup> This is thought to be due to asset managers remaining cautious over uncertainties in the definition of 'sustainable investments' and the methodology via which sustainability is calculated.
<b>EU Taxonomy</b>	The EU taxonomy aims to provide companies, investors and policymakers with appropriate definitions for which economic activities can be considered environmentally sustainable in alignment with a net zero trajectory by 2050 and broader environmental goals. In this way, it aims to serve as a market transparency tool to protect investors from greenwashing, help companies to become more climate-friendly, mitigate market fragmentation, and help shift investments where they are most needed.
<b>Task Force on Climate-related Financial Disclosures (TCFD)</b>	<p>Set up by the Financial Stability Board in 2015, the TCFD set out a global, climate-focused framework to help organisations more effectively disclose climate-related risks and opportunities through their existing reporting processes. It is based on four pillars; (1) Governance; (2) Strategy; (3) Risk Management; (4) Metrics and targets.</p> <p>Since 2021 all UK premium-listed and standard-listed companies have been required to state, in their Annual Report, whether their disclosures are consistent with TCFD recommendations, or to explain why not. The UK Government is also making TCFD-aligned disclosure mandatory for over, 1,300 of the largest UK-registered companies and financial institutions, making it the first G20 country to do so.</p>
<b>Task Force on Nature-related Financial Disclosures (TNFD)</b>	The TNFD has developed a set of disclosure recommendations and guidance for organisations to report and act on evolving nature-related dependencies, impacts, risks and opportunities. The recommendations are structured around four pillars; Governance, Strategy, Risk & Impact Management, Metrics & Targets. The framework is consistent with the TCFD, ISSB, and the goals and targets of the Kunming-Montreal Global Biodiversity Framework.
<b>International Sustainability Standards Board (ISSB)</b>	<p>The IFRS Foundation announced the formation of the ISSB at COP26 in 2021 with the aim of developing standards for a global baseline of sustainability disclosures to meet the information needs of investors. It builds on the work of market-led investor-focused reporting initiatives, including Climate Disclosure Standards Board (CDSB), TCFD, Global Reporting Initiative (GRI) and the industry-based SASB Standards. Figure 15 sets out a timeline of significant events during the reporting period that indicates the gradual consolidation of these frameworks.</p> <p>IFRS S1 provides a set of disclosure requirements designed to enable companies to communicate to investors about the sustainability-related risks and opportunities they face over the short, medium and long-term. Comparatively, IFRS S2 sets out specific climate-related disclosures.</p>
<b>Carbon Disclosure Project (CDP)</b>	The CDP runs a voluntary environmental disclosure system for corporations, cities, states and regions at the request of shareholders and other stakeholders. Each year the CDP allocates a score to each submission on climate change, water security and deforestation. To date, more than 18,700 companies have reported environmental data and information through the CDP

<sup>33</sup> [ESG Fund Downgrade Accelerates \(2023\) Morningstar](#)

	questionnaires.
<b>UK Sustainable Disclosure Requirements (SDR)</b>	<p>The FCA published an inaugural consultation paper<sup>34</sup> on the proposed sustainable investment labelling regime for investment products in October 2022, receiving 240 written responses from investors and consumers. The subsequent policy statement was released in Q4 2023. An anti-greenwashing rule applies to all UK FCA-authorized firms who make sustainability-related claims about their products and services. The regulation also proposes four financial product labels for in-scope firms to voluntarily label their UK-domiciled products providing they meet the relevant criteria for each category;</p> <ul style="list-style-type: none"> <li>• <b>Sustainable focus:</b> Products with an objective to maintain a high standard of sustainability in the profile of assets by ensuring 70% of the portfolio meets a “credible standard of environmental and/or social sustainability” or aligns with a specified environmental and/or social sustainability theme.</li> <li>• <b>Sustainable improvers:</b> Products with an objective to deliver measurable improvements in the sustainability profile of assets over time.</li> <li>• <b>Sustainable impact:</b> Products with an explicit objective to achieve a positive, measurable contribution to sustainable outcomes.</li> <li>• <b>Sustainability mixed goals:</b> Products with a sustainability objective to invest at least 70% in accordance with a combination of the sustainability objectives for the other labels.</li> </ul>
<b>UN Principles for Responsible Investment (UN PRI)</b>	<p>Firms can elect to become signatories according to six principles, which include the reporting and incorporation of ESG issues into investment analysis and decision-making processes, appropriate disclosure on ESG issues by the investee entities and promotion of alliance and implementation of the Principles within the investment industry.<sup>35</sup></p> <p>In 2021 the PRI communicated that reporting in 2022 would be postponed and that the next reporting cycle would take place in 2023. Postponing reporting until 2023 has allowed the PRI to engage with signatory feedback on the pilot to improve the overall reporting user experience for signatories in the next reporting period.</p>
<b>Net Zero Asset Manager's Initiative (NZAMI)</b>	A commitment to supporting the goal of net-zero GHG emissions by 2050 and to ensuring that investments are managed in line with the goal of net-zero GHG emissions by 2050 or sooner. <sup>36</sup>
<b>Science-Based Targets Initiative (SBTi)</b>	<p>The SBTi is a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF) and is the lead partner of the Business Ambition for 1.5°C campaign. They show companies and financial institutions how much and how quickly businesses need to reduce their GHG emissions to prevent the worst impacts of climate change, enabling them to set targets to lead them on a clear path towards decarbonisation. Targets are considered ‘science-based’ if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement – limiting global warming to well-below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C.</p> <p>Where sufficient data is not provided, the SBTi methodology advises a default temperature score of 3.2 degrees Celsius to be applied.</p>

<sup>34</sup> [Sustainability Disclosure Requirements and investment labels \(2022\) Financial Conduct Authority](#)

<sup>35</sup> [UN Principles for Responsible Investment](#)

<sup>36</sup> [NZAMI Signatory Requirements](#)

## Appendix II: Emissions Methodology

Emissions data reporting is in its infancy and is a fundamental shift in how companies assess their operations. As a result, there are areas that need discussing, standards to be set, and improvements made. We will set out how we addressed certain issues and limitations below.

We gathered required operational and emissions data on investee companies, where available, and when not disclosed estimates were made using Bloomberg or internally.<sup>37</sup> This is an iterative process and we aim to improve our data quality and methodology over time, concurrently with the sustainable investment industry as consensus is created and regions implement regulations. Unless stated otherwise, we have estimated emissions on an annual basis, for both emitted and avoided. Therefore where appropriate we have scaled emissions values by the estimated asset life to align with the annualised estimates of avoided emissions. For example, if a company is manufacturing wind turbines with a 30 year asset life, we look at avoided emissions over a single year, and therefore to be consistent we also annualise the scope 1, 2 and 3 emissions emitted during that year by dividing the non-annualised emissions by the asset life.

### Annualised Scope 1 and 2 GHG Emissions

During the reporting period, 84% of investee companies disclosed scope 1 and 2 emissions. Where possible we used data provided by companies via their publication or statutory reporting. Although disclosure of emissions has improved for 2022, for the companies that did not report, Bloomberg estimates were used.

It is important to note that scope 2 emissions can be measured using two different methodologies;<sup>38</sup>

- **Market-based:** Emissions from electricity that companies have purchased, including renewable energy certificates and contracts.
- **Location-based:** Emissions based on the average emissions intensity of grids on which energy consumption occurs. The grid emission factor will depend on the sources used to generate energy. Location-based emissions do not take into account renewable energy certificates.

During our analysis, we noted that 3 companies have distinguished between their market-based and location-based emissions for 2022, disclosing values for both. Otherwise, 4 companies only disclosed market-based emissions values with the remaining not providing details on which methodology has been utilised. This may result in inconsistent results and highlights the need for more standardisation in scope 2 emissions reporting. For the companies that reported on both market-based and location-based emissions, we have used the higher value in our aggregated reporting in order to be conservative. Where appropriate we have scaled emissions values by the estimated asset life to get an annualised value.

### Annualised Scope 3 GHG Emissions

Scope 3 emissions on average account for around 70% of the average corporate value chain's total emissions.<sup>39</sup> During the reporting period, 53% of our portfolio companies reported on at least some parts of their scope 3 emissions, in comparison to only 33% of companies during the previous year.

Of the companies that did not report, we considered using peer companies in similar industries to get an indication of the level of emissions, however we decided this approach was limited due to:

- Few peer companies reported scope 3 in the period.
- Of the peer companies that do report, this could represent a sample of the very best low-emitting companies. If we inferred our non-disclosing portfolio companies from this sample, we may be understating emissions.

To estimating the scope 3 emissions for the 9 companies which did not report, we used Bloomberg's model. Where

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<sup>37</sup>For Scope 3 greenhouse gas (GHG) emissions, if available, otherwise estimated Scope 3 emissions based on Bloomberg's proprietary model or an industry intensity implied model. Data is populated using a waterfall logic from either of the following fields in the priority shown: Scope 3 GHG Emissions, Scope 3 Estimated Emissions, Scope 3 Industry Implied Estimate. For Scope 1+2 a similar logic is used.

<sup>38</sup> [GHG Protocol Scope 2 Guidance \(2015\) World Resources Institute](#)

<sup>39</sup> [Closing the scope 3 GHG emissions data gap \(2023\) Bloomberg](#)

appropriate we have scaled emissions values by the estimated asset life to get an annualised value. For 2 electric two-wheeler manufacturers, we additionally scaled down the scope 3 emissions by a factor of 222x, as a result of Bloomberg's model for scope 3 not distinguishing between electric vehicles and electric two-wheelers. We assume for electric two-wheelers the majority of scope 3 emissions will largely come from category 11 'use of sold products'. This scale factor is justifiably large, as the distance travelled by an electric vehicle over its lifetime is significantly greater than that of an electric two-wheeler (we estimate it to be 50x further) and the amount of electricity consumer per km is estimated to be 4.4x greater for an electric vehicle versus an electric two-wheeler.

## Annualised Avoided GHG Emissions

In 2022 we are pleased to find that 58% of companies reported some form emissions avoided, compared to only 43% in 2021. However, two companies were removed as the way they calculated avoided emissions was not comparable to other companies; one only looked at a single solar farm in Texas, whilst another took the cumulative avoided emissions over the entire companies lifetime.

Avoided emissions calculations and standards will continue to evolve. Our approach is centred around avoided emissions being GHG emissions that would occur in the absence of the investee companies' products or services activity that the company enables on an annual basis.

It is important to differentiate between GHG emissions emitted and avoided. GHG emissions emitted are measurable and physically emitted into the atmosphere. Avoided emissions is the concept that a company's products or services can avoid emissions – either by enabling emission reductions or by providing a low-emission version of existing products. It is an estimated value to give an indication of a company's positive impact towards the reduction of system-wide emissions.

This is not to be confused with Net Zero. Net Zero refers to a state in which the GHG emissions going into the atmosphere are balanced by removal out of the atmosphere. Avoided emissions are not being removed from the atmosphere but can provide a positive system-wide impact by reducing emissions. As a simple example, if a country requires additional electricity generation capacity and has the option of a coal fired power station or a wind farm. Both release some GHG emissions through their construction involving concrete and steel, but over the assets lifetime the wind farm has significantly lower GHG emissions. This difference can be defined as avoided emissions. To give a complete picture, it is important that scope 1, 2 and 3 are included in the analysis.

We used a company's self-reported avoided or displaced emissions value, where available. The quality and method varied significantly from company to company, there is further work to be done to improve avoided emissions disclosures and comparability between companies. For example, companies may report an avoided emissions value but over a multiyear period. In this case, we attempted to estimate a current year value using the data available and internal estimates.

For companies where no such avoided emissions data was available, we estimated it internally and broadly speaking the methodology we used is as follows:

- For renewable power producers, we took the annual power generated by the company (in GWh) and applied an approximate electricity carbon intensity (tCO<sub>2</sub>e/GWh). We then scaled it by a developer or operator factor (i.e. the benefit or avoided emissions associated with those clean electrons should be somehow distributed between the different players in the renewable energy transition, and not 100% claimed by the end operator)
- For manufacturers of solar modules and wind turbines, to estimate avoided emissions we used the product equivalent GWp produced over the period, average capacity factor, how much the product represents of the total solar or wind project and the approximate electricity carbon intensity.
- For an automotive parts manufacturer, they released data in their CDP report on avoided emissions.
- For electric moped and scooter manufacturers, for which we own two in a single geography, one reported an avoided emissions value and this was used to infer an avoided emission number for the other company, scaled to how many scooters that company sold.
- For battery energy storage, estimated avoided emissions,<sup>40</sup> were used with a scaling factor. Energy storage provides the ability to store energy from intermittent solar and wind sources, avoid curtailment and reduce the dependency on fossil fuel-based power.

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<sup>40</sup> MA DOER 2016 (ESI: State of Charge Report <https://www.mass.gov/info-details/energy-storage-study>) and USA Energy Storage Association (ESA) 2017 whitepaper "35 X 25: A Vision For Energy Storage" (pages 12,13)

## Limitations

Despite the increasing availability of non-financial data being made available by companies, there are several limitations. We discuss them here as areas of improvement for ourselves and the industry to focus on:

- Lack of reporting key information by companies. Although improvements have been made and further regulations are in the pipeline, lack of reporting is still an issue, especially for smaller companies.
- Methodologies used by the companies to calculate their emissions values may not always be disclosed, audited or comparable between different companies. Therefore, we are unable to evaluate the accuracy of carbon accounting methods used by each company in this reporting period and have taken the data at face value, however we presume that there may exist inaccuracies within the data.
- Emissions data does not always account for all defined greenhouse gases<sup>41</sup> besides carbon dioxide.
- All the emissions data presented here relies in part or fully on GIP internal estimates and has not been externally audited. Even when a company reports emissions data, the use of third-party audits should be promoted to assess the accuracy of such claims.
- Companies are incentivised to report lower emissions. Another effect is that only the best companies, with already low emissions, report their data and the most polluting businesses stay silent.
- Scope 3 is still relatively in its infancy with lack of comparability and companies reporting only some of the GHG protocol's 15 categories of scope 3 emissions. The data taken directly from company reporting may differ between companies and are not necessarily verified or audited.
- Avoided emissions are not well defined. There is no international standard or consistent terminology to describe avoided emissions. A consensus needs to be reached as this area currently relies heavily on internal estimates and judgements and is therefore susceptible to greenwashing.

We believe we have implemented an appropriate methodological framework with the data currently available, with the aim of providing a 'best efforts' indication of the portfolio's emissions and mitigate absent self-reported data. Within the Outlook section, we discuss enhancements we plan to implement in future annual impact reports.

## Glossary: Units

Term	Description
<b>Tonne/metric ton (t)</b>	A metric ton or tonne (t) is a unit of weight equal to 1000 kilograms, not to be confused with the imperial unit 'ton' (T). We have used metric tonne in this report.
<b>Metric tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e)</b>	tCO <sub>2</sub> e allows other greenhouse gas emissions to be expressed in terms of CO <sub>2</sub> based on their relative global warming potential (GWP). The five main greenhouse gases besides carbon dioxide (CO <sub>2</sub> ) include methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF <sub>6</sub> ). As different greenhouse gases last in the atmosphere for different lengths of time, they also absorb heat at discrepant efficiencies and rates. For example, 1kg of emitted methane would be expressed as 25kg CO <sub>2</sub> e, due to it having 25 times the potency over a 100-year period compared to carbon dioxide.
<b>Carbon to Value Invested (tCO<sub>2</sub>e/€1m invested)</b>	The aggregation of portfolio GHG emissions per €1 million invested. The owned constituent GHG emissions is based on Enterprise Value.
<b>Carbon to Revenue (tCO<sub>2</sub>e/\$1m revenue)</b>	The sum of all owned constituent GHG emissions divided by the sum of all apportioned revenues.
<b>Weighted Average Carbon Intensity (tCO<sub>2</sub>e/\$1m revenue)</b>	The weighted average of individual company's intensities (GHG emissions over revenues), weighted by the proportion of each constituent in the portfolio or index.

<sup>41</sup> For more information on the greenhouse gases: <https://www.epa.gov/ghgemissions/overview-greenhouse-gases>

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