

# Part 3: Tracking and measuring progress

In Part 1 of this three-part client guide to decarbonisation, we looked at the most appropriate emissions measures to enable both target setting and progress tracking, given a client's investment goals, constraints and resources. There are numerous routes to a net zero, or lower carbon, destination. Defining the right strategy and measures is critical to ensuring investors' climate ambitions align with their investment goals.



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In Part 2, we expanded on how to implement a net zero strategy once set, including how to project a current pathway and how to manage that pathway through active ownership and investment allocation.

In this, Part 3 of the series, we focus on the nuts and bolts of calculating, applying and tracking performance using a range of carbon metrics.

Part 3 focuses on two key topics:

1. **Climate metrics for target setting**, focusing on portfolio target-setting approaches including an overview of the different metrics to measure carbon, their attributes and potential limitations.
2. **Considerations for tracking and reporting**, focusing on how progress can be assessed across the portfolio to understand the drivers of decarbonisation.

This paper focuses on the metrics used in carbon reporting for listed corporate securities (equities and corporate debt) given the relative maturity of these asset classes compared to others, such as sovereign instruments. Carbon measurement in private asset classes is less mature and less consistent than public assets; we plan to examine these differences and the suitable use of such metrics for private and real assets in a future paper.

## Climate metrics for target-setting

When establishing a decarbonisation target, investors can select metrics based on companies' reported emissions, or measures based on companies' committed or projected emissions reductions. The former relies on companies' historic reported emissions, while the latter focuses on forward-looking targets and future reductions. In practice, the most effective approach is the assessment of both reported emissions and company commitments, but investors should determine the most appropriate approach in the context of their broader investment objectives and constraints.

## Reported emissions metrics

The historic carbon emissions of a company or portfolio are calculated using reported emissions data, and often supplemented with estimated data (covered in more detail on page 4). Over time, this provides a catalogue of how a company's or portfolio's emissions have changed over time.

It is important to consider that different carbon metrics offer different perspectives and do not always move in tandem over time. Therefore it may be helpful to track multiple metrics and to understand the drivers behind the trends observed.

### 1. Total carbon emissions or financed emissions

**Type:** absolute GHG emissions metric

**Units:** tonnes of CO<sub>2</sub> equivalent (CO<sub>2</sub>e)

**Overview:** measures the absolute greenhouse gas (GHG) emissions that are financed or 'owned' by the investor. For listed assets, the emissions are allocated based on the current value of the investment relative to the issuer's enterprise value including cash (EVIC). EVIC is a measure of the size of a company which includes its outstanding equity market capitalisation, the book value of debt it has issued and the cash it holds. This allocates emissions based on the principle of ownership. For instance, if an investor's investment represents 5% of the value of a company's EVIC, then 5% of the emissions will be attributed to the investor. Under the Partnership for Carbon Accounting Financials (PCAF), this is known as a portfolio's 'financed emissions' as it is the percentage of the emissions financed by the investor's investment.



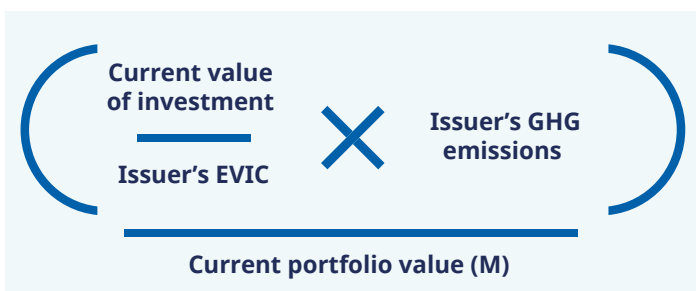
**Considerations:** absolute emissions will grow as the total value of your portfolio grows – whether that is driven by cash paid in or by positive investment returns. So if the goal is to grow the portfolio value and simultaneously reduce your portfolio's total emissions, these two factors will be driving carbon emissions in opposite directions. In addition, by using EVIC to measure issuer value, the split between (volatile) equity market value and the fairly stable but lumpy changes in the book value of debt may also shift how much of the carbon emissions of a company is 'owned' by debt or equity investors. The EVIC measure will also be sensitive to financial leverage decisions made by companies. This may influence your financed emissions to go up or down, despite no real change in the underlying company's emissions.

## 2. Carbon footprint (also known as investment intensity)

**Type:** intensity-metric

**Units:** Tonnes of CO<sub>2</sub>e/\$M invested

**Overview:** normalises the total carbon emissions of a portfolio by its market value. This relative measure enables investors to compare the carbon emissions of portfolios of different size. Over time investors can then calculate their total financed emissions by multiplying the carbon footprint by their \$M holding in the fund.



**Considerations:** This measure solves for the problem of emissions growing as the value of the portfolio grows. However, the decision on whether to use total portfolio value, or a portfolio value that is adjusted based on data coverage, needs to be made (see portfolio normalisation on page 4 below).

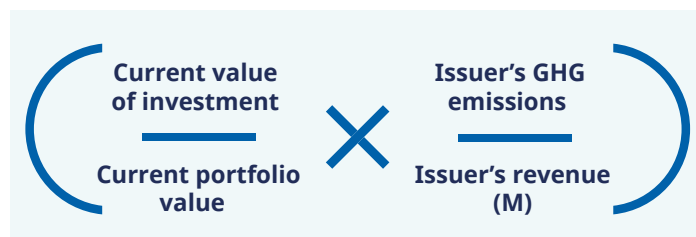
The value of the investment, the EVIC and the current portfolio value are all susceptible to changing asset values. This is not a problem if they all move in step, but this is unlikely to happen. In particular, EVIC can be based on out-of-date data and does not typically use the market value of bonds. This means that a fall in the value of the portfolio may lead to an increase in the reported carbon footprint, even though the emissions produced by the portfolio companies haven't changed.

## 3. Weighted Average Carbon Intensity (WACI)

**Type:** intensity-metric

**Units:** Tonnes of CO<sub>2</sub>e/\$M revenue

**Overview:** measures a portfolio's exposure to carbon-intensive companies, based on their emissions relative to revenue. This varies from the previous carbon-related metrics described above that are based on an equity or debt ownership approach.



**Considerations:** WACI is recommended as a reporting metric by the Task Force on Climate-related Financial Disclosures (TCFD). It effectively explains how carbon efficient a company or portfolio is in producing a dollar value of output, and allows comparison between them. The measure does not penalise companies that have higher emissions simply because they are producing a larger amount of goods or services, or see an increase in emissions purely driven by the overall growth of their business. However, WACI can be influenced by different price levels across markets. For example, an emerging market company that generates the same emissions per tonne of cement produced as a company in a developed market could have a higher WACI, if cement prices, and thus revenues, are higher in developed markets. WACI is also sensitive to the volatility of reported revenue.

### Carbon footprint vs. WACI comparison

The difference between the two measures when comparing companies and portfolios is driven by the relationship between EVIC and revenue. While these measures will most often be positively correlated, differences in business models will influence the relationship. EVIC will be more closely linked to profitability than revenue, meaning one company could have a lower carbon footprint than another because of higher margins, even if their WACI is similar or higher. An early stage company may have relatively low revenue but high valuation due to expected growth, leading to potentially higher WACI compared to peers, but a similar or lower carbon footprint.

Therefore the choice of metric for a commitment will affect both the decarbonisation pathway and the implementation of a decarbonisation strategy. For example, a carbon footprint reduction target could incentivise a shift from value to growth stocks compared to a WACI reduction target. An understanding of both measures will give a better idea of a company's starting point relative to peers as well as the drivers of change.

### Future ambition measures: portfolio alignment metrics

The second category of portfolio metrics involves analysis of the underlying holdings' future decarbonisation commitments. Unlike the absolute or intensity-based emissions methods above, this requires an assessment of a company's commitments against a scientifically established decarbonisation pathway, such as those detailed by the International Energy Agency (IEA). Fortunately, there are a number of standard and widely used frameworks that simplify this process, such as the one provided by the Science Based Targets initiative (SBTi), or the Net Zero Investment Framework (NZIF) developed by the Institutional Investors Group on Climate Change (IIGCC).

#### 1. Binary target assessments

**Type:** framework alignment metric

**Units:** % of portfolio aligned

**Overview:** the simplest form of portfolio alignment metric, whereby financial institutions focus on the proportion of portfolio companies with a specified target. This might be "proportion of companies that have committed to net zero" or to improve credibility, "proportion of companies that have science-based validated targets". The most popular framework for assessing alignment to a credible net zero commitment is the SBTi.

**Consideration:** while simple to track and report on, there is no measure of the quality of the target set and whether there is a credible plan to achieve it. Further analysis will need to be carried out on each company to identify whether the target is reasonable and achievable, and whether they are taking the necessary steps to implement it.

## 2. Maturity scale

**Type:** framework alignment metric

**Units:** varied

**Overview:** uses the assessment of quantitative and qualitative factors to determine alignment to a net-zero world, including assessment of company targets, past performance, disclosures and governance. A popular example would be the NZIF scale of 'aligned', 'aligning', 'committed to aligning' or 'not aligned'.

**Considerations:** the allocation to a specific maturity category may be subjective, and as different frameworks for this exist, it may not be easy to aggregate or compare across different portfolios. However, it is fairly simple to understand and can demonstrate progress towards a net zero goal as a company improves their transition plan.

## 3. Benchmark divergence

**Type:** over or undershoot of a carbon budget

**Units:** % divergence

**Overview:** in this case, the benchmark is a pathway of carbon emissions determined by a particular climate scenario (e.g. achieving net zero by 2050). This is known as the carbon budget (and may be at country or sector level). Each company's projected emissions, based on its decarbonisation targets, is compared against this carbon budget and a degree of over or undershoot (% or tonnes of emissions) is then reported. This divergence is then aggregated across portfolio companies to produce a portfolio level measure of divergence.

**Considerations:** some models reflect regional and sectoral decarbonisation requirements that can allow for certain regions and sectors to decarbonise more slowly vs others, as opposed to having the same global decarbonisation expectation of all companies. To note, this is a forward looking metric that is based on company ambition but is also referencing historical measures if the pathway starts from a company's current emissions.

This measure can be more difficult to explain or understand, but often forms the basis for the calculation of a temperature alignment score, as described below.

## 4. Temperature score or Temperature alignment

**Type:** temperature alignment metric

**Units:** degrees Celsius (°C)

**Overview:** assesses the alignment of a company and/or portfolio to a temperature outcome using the targets of the Paris Agreement as a guide; limit "the increase in the global average temperature to well below 2°C above pre-industrial levels" and pursue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels." Though there are several competing methodologies, they all aim to combine historical company emissions with future climate commitments and action to arrive at an implied degrees Celsius of warming.

**Consideration:** in theory, this forward-looking metric should capture how the ambitions of a company align to the Paris Agreement. However, there are multiple, complex methodologies that make portfolio comparison and aggregation challenging. It has a higher degree of complexity when compared with other metrics.

**What next?** Having understood the different metrics used for tracking emissions reduction and assessing future decarbonisation plans, it quickly becomes apparent that there isn't one metric that is best. Schroders has opted to use the CDP-WWF methodology temperature rating methodology in line with the SBTi, tracking temperature score between now and 2040 with the aim of aligning our portfolios to a 1.5°C world by this date.

This is clearly not the only approach, just the one that works for our investment context and active ownership strategy. WACI and carbon footprint have been the most common measures used by asset owners for target-setting, but some have opted for more forward-looking portfolio alignment metrics. Investors may choose to have one metric or multiple as a formal target. There is value in tracking multiple metrics to provide different perspectives on a portfolio's decarbonisation pathway, and inform the investment decisions that need to be made to help achieve the objectives that motivated net zero strategy in the first place. But once decided on the target metric to track, consideration needs to be made for how that data is reported.

Figure 1: Comparison of two market leading examples of temperature scoring

	CDP WWF temperature rating <sup>1</sup>	MSCI's Implied Temperature Rise
<b>Calculation methodology</b>	Aligns a company's targets to climate scenarios based on their coverage and ambition. A company with no target gets a default score of 3.2°C regardless of their current emissions.	Based on a company's targets, current emissions and future projected emissions trajectory relative to a carbon budget <sup>2</sup> .
<b>Measuring targets</b>	Slope of the target – linear annual reduction ambition, does not account for current emissions or previous targets.	Projected intensity – takes into account emissions reduction committed and historical efforts.
<b>Time horizons</b>	Considers targets at three time horizons; short term (e.g. 2021-2024), medium term (e.g. 2025-2035) and long term (e.g. 2036-2050).	Considers projected emissions and targets out to 2070, one time horizon for temperature numbers.
<b>Emissions scopes</b>	A combined Scope temperature number and a temperature number for Scope 1+2 and Scope 3 emissions.	Both a combined Scope temperature number and a temperature number per Scope (Scope 1, 2 and 3 emissions).
<b>Temperature scale</b>	Capped at 3.2°C – aligned with climate scenarios that state current policy action places the world at 3.2°C warming.	Capped at 10°C – companies can significantly overshoot their allocated carbon budget.
<b>Portfolio aggregation</b>	Based on each company's temperature score – aggregating using EVIC.	Based on the sum of companies' over/undershoot carbon budgets – aggregating using EVIC.

<sup>1</sup> Used by the Science Based Targets initiative (SBTi). <sup>2</sup> Carbon budget is the amount of greenhouse gas emissions that can be emitted over a period of time for a given level of global warming, attributed by country, sector and company.

## Considerations for tracking and reporting

When establishing a decarbonisation plan, investors need to qualify the in-scope assets the targets will relate to. The ultimate aim should be to include 100% of assets across all Scopes of emissions (Scopes 1, 2 and 3), but this is currently challenging due to the large proportion of Scope 3 emissions being estimated, emerging methodologies across some asset classes (particularly sovereign bonds), and a lack of reported emissions across private assets. Accordingly, where this data is lacking, investors will often look to 'fill' or 'normalise' a portfolio by estimating the missing data to avoid under reporting and mitigate the future volatility of the portfolio's carbon emissions.

## Normalisation of portfolio emissions

'Normalisation' means to estimate the portfolio's carbon emissions where there is a lack of emissions data, usually due to the absence of reporting. The purpose is to minimise the impact of either an increase in reported emissions data, or through the inclusion of calculation methodologies for additional asset classes. Typically, this involves excluding the portion of the portfolio where data is lacking from the calculation and re-weighting the remainder to 100% so that the companies or assets without data receive the average emissions of the portfolio with data.

The below illustrates the impact of normalisation with an example portfolio:

**Year 1:** 60% of the assets have been deemed in-scope for the investor's decarbonisation commitments. The manager reports that, of the in-scope assets, data coverage is 70% and the total carbon emissions are 1000 tonnes CO<sub>2</sub>e.

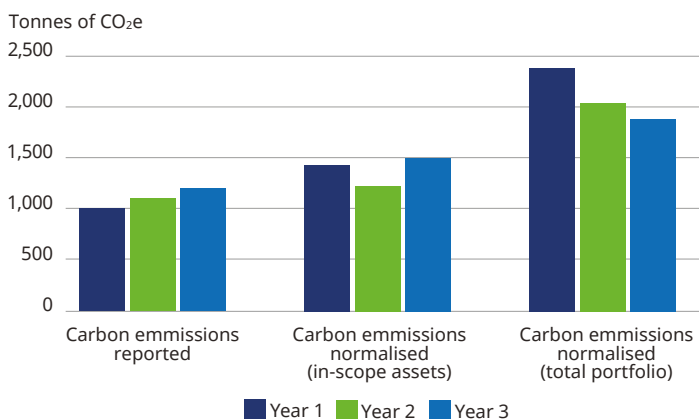
**Year 2:** 60% of the assets remain in-scope, but the data coverage has improved to 90% and the reported emissions are now 1100 tonnes of CO<sub>2</sub>e. Although emissions have gone up, they now cover a greater proportion of the portfolio, which may be a positive, rather than negative outcome.

**Year 3:** 80% of the portfolio assets are now in-scope, and the data coverage has reduced to 80% of in-scope assets. The reported emissions are now 1200 tonnes of CO<sub>2</sub>e.

So, in this example, what would constitute decarbonisation given the different treatment of missing data?

In the below graph, we consider two ways of normalising these three years of data for our simplified example above – firstly normalising just over the in-scope assets and then normalising over the total portfolio value (including out-of-scope assets).

**Figure 2: Example – Normalising carbon emissions**



Source: Schroders. For illustrative purposes only.

The chart to the left shows a 20% increase in carbon emissions over the period when just looking at the reported emissions, but a 21% reduction if we normalise these emissions across the total portfolio value. When normalising across just the in-scope assets, a jump in in-scope assets can lead to an increase in the reported emissions.

This highlights the importance of clear and transparent disclosures, and is why we would encourage investors to ask their managers how they are aggregating portfolio emissions. To do this, it is important that there is a clear explanation of the methodology used, plus reporting of both the data coverage and quality so that the users can fully understand the reported data.

## Data coverage and quality

The example in the above section demonstrates why it is important to report and track **data coverage**. Without it, investors may misinterpret an increase in portfolio emissions with an increase in the underlying company's emissions, when it may be attributed to an increase in data availability.

**Given the infancy of emissions reporting in some sectors and geographies, and the challenges of obtaining reported data in certain asset classes, it is not uncommon for investors to set targets related to the improvement of data coverage as an ancillary engagement objective.**

With **data quality**, as with emissions reporting, there are different methodologies (for instance, the Partnership for Carbon Accounting Financials (PCAF) uses a 1-5 scoring system) but the common distinction is to separate 'reported' vs. 'estimated' data. This provides investors with a factor of confidence in the data, with reported data considered higher quality than estimated data.

### Changes in carbon emissions or alignment targets over time

The earlier example on data coverage highlights that changes in portfolio emissions can be driven by factors that are unrelated to changes in company emissions. As well as data coverage or changes in quality, many other things can affect the reported emissions, such as:

- **Asset allocation of the portfolio.** If asset allocation is altered for reasons unrelated to carbon, e.g. to de-risk the portfolio and move from equities to bonds or even into cash, for example, this may change the overall reported emissions. An asset allocation decision may be strategic (long term) or tactical (short term). If it is later reversed (particularly a tactical move into cash that is later re-invested) this could impact reported emissions.
- **'Stock-picking'.** The manager may choose to buy or sell companies held in the portfolio for investment reasons (e.g. an alpha opportunity) which negatively influences the decarbonisation trajectory of the portfolio.
- **Changes in company specific factors.** Balance sheet composition may impact the EVIC or revenue used to calculate carbon metrics. EVIC can also change due to market movements, increasing the carbon footprint of the portfolio without any actual underlying change in the carbon produced.
- **Reduction in company emissions.** This is the ultimate goal, a reduction in the carbon produced by the companies held as they pivot their business model, improve the efficiency of their processes or manage their supply chain. This might be in line with targets they have already set, or as a result of engagement with company management.

Being able to isolate these factors and attribute the change in the reported carbon emissions will help determine whether the portfolio is on track to achieve its targets. It highlights the different variables to this data, and why a simple straight line approach to decarbonisation may be too simplistic.

### Other requirements for your decarbonisation plan

Given the challenges described with carbon reporting and the time it takes for progress to be demonstrated by companies reducing their emissions, supplementary targets may be necessary to demonstrate progress over the shorter term. The most commonly adopted relate to engagement, and investment in positive climate solutions.

#### Engagement

As mentioned throughout this series, we strongly believe engagement should be the primary tool for encouraging change in portfolio companies to drive down portfolio carbon emissions. Tracking engagement can be challenging as its not just about the quantity, but also the quality of the engagements.

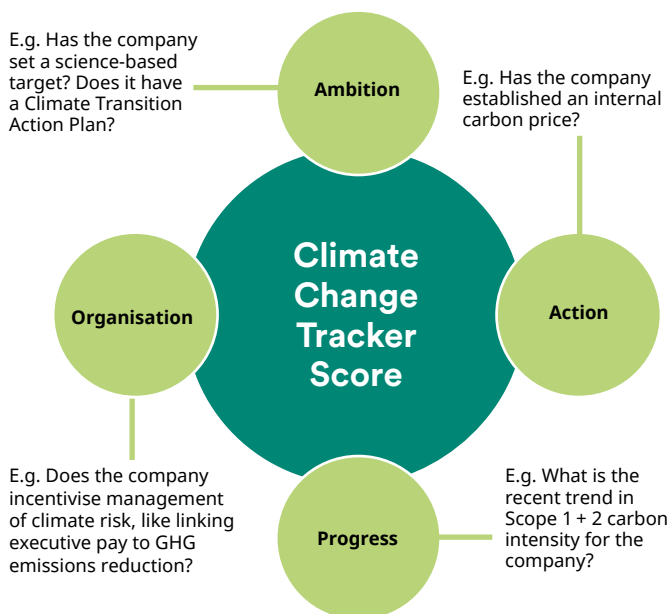
One approach is to establish the proportion of the portfolio that should be engaged by a certain date, measured by either number of companies, assets under management (AUM) or the portfolio's emissions. Again, it is important to explain why a particular engagement target has been set. For example, an investor may wish to engage with their most carbon-intensive holdings covering 70% of financed emissions but this may only represent 30% of portfolio companies.

To do this effectively, investors need to be able to accurately track the progress of their engagement activity and assess its impact to drive changes in behaviour outside of just reported emissions (given the number of factors that may influence company emissions). This requires the evaluation of not just quantitative factors, but also qualitative factors, like whether climate targets are tied to Director remuneration, or the extent to which carbon credits are used as a means of decarbonisation. Evaluation of this data can be used to help identify positive change in company climate ambition, and be used to help in periodic engagement prioritisation. This is one of the functions of Schroders' Climate Change Tracker.



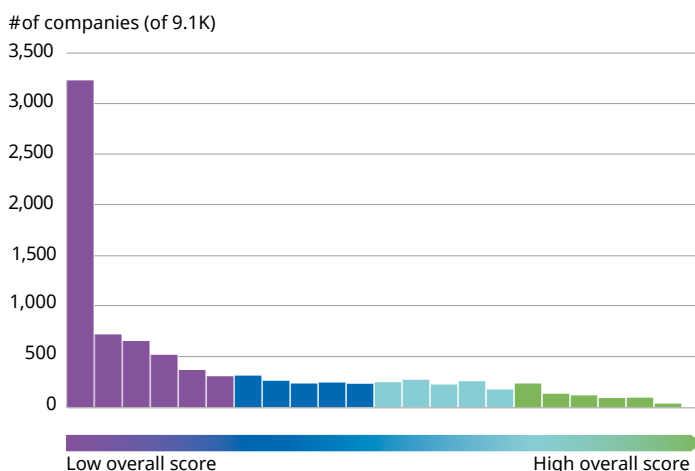
## Schroders Climate Change Tracker

Figure 3



This is a proprietary tool measuring companies on their overall management of climate change, looking at both qualitative and quantitative indicators. This aims to assess progress against a company's climate commitment, and establish how embedded climate is in the organisation. This analysis assesses both historical progress and future alignment indicators, helping to provide a holistic view of climate maturity.

## Distribution of Climate Change Tracker scores across MSCI ACWI IMI



### Positive climate solutions

Finally, we also see investors set a target of allocating a certain percentage of their AUM to positive climate solutions. Positive climate solutions are an important part of a decarbonisation journey, but need to be considered in line with their investment merit, particularly for investors subject to fiduciary duty. Examples of such targets include an overall portfolio allocation to climate solutions (assesses both historical progress, such as an investment in green infrastructure or green bonds), by considering the proportion of green capital spent at underlying investee companies, or assessing the portfolio's avoided emissions.

## Conclusion

Reporting on decarbonisation is a complex topic that many investors are only just beginning to comprehend, with the identification and assessment of trends across different metrics an emerging science. This makes greater transparency in emissions reporting, in parallel to a better understanding of the various metrics, paramount to being able to interrogate a company's, or portfolio's, decarbonisation strategy. Given the complexity, we believe it is inevitable that decarbonisation plans will need to be adapted and refined as the market's literacy improves. For now, we hope this guide provides some useful insight into the most common metrics.

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