



# LGIM Temperature Alignment



LGIM Temperature Alignment provides a tool, both for our clients and LGIM as an investor, for measuring and managing the impact of investments on climate change. The LGIM temperature alignment metric is constructed to follow the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD).<sup>1</sup>

The temperature alignment metric enhances our portfolio management and research, enabling us to provide our clients with solutions that consider climate risks alongside other investment risks, and help us to meet our clients' investment and climate-related objectives.

The metric asks of companies: what climate outcome are your actions compatible with? The approach reflects the direct connection between companies' greenhouse gas (GHG)\* emissions and global warming.

It allows investors to measure their impact on climate change through their investments and evaluate performance against science-based global climate targets, such as well-below 2°C and net-zero 2050.

<sup>1</sup> LGIM Temperature Alignment relies on approximations, assumptions and third party data.

Such third party data could also include approximations and assumptions.

LGIM has not validated such third party data and has not verified the accuracy of such data.

\* Greenhouse gases, such as carbon dioxide, trap heat in the atmosphere, thereby causing the "greenhouse effect".





## Scenario narratives

To evaluate asset performance against climate targets, we have devised four core scenario narratives against which to compare companies' and sovereigns' actions:

Scenario <sup>2</sup>	Narrative
<b>1.5°C (net zero GHGs)</b>	To reach net zero greenhouse gases (GHGs) by 2050 globally, all companies must decarbonise extremely rapidly, at an unprecedented scale. This requires all companies, regardless of starting point or sector, to reduce absolute GHG emissions by half by 2030. It does not require convergence on an end point.
<b>2°C</b>	The 2°C scenario is a convergence scenario in which companies are expected to converge over time. This means more emissions-intensive companies today must work harder than less emissions-intensive peers to achieve the same outcome by 2030.
<b>4.5°C</b>	To reach global warming of 4.5°C, the highest temperature scenario modelled by the IPCC, the world would have to abandon all existing climate targets and grow GHG emissions at a rate that is higher than historical trends. This is not a convergence scenario, as companies can grow their emissions no matter the starting point.
<b>6°C</b>	There is no climate scenario, even from the IPCC, which sets out what a 6°C outcome would entail in terms of emissions growth. As a result, this is less a specific scenario than an upper bound communication device for temperature alignment. It would involve a significant regression towards coal-fired power and result in exponential emissions growth.

<sup>2</sup> Please note that these scenario narratives are defined by their approximate global warming to 2100 relative to pre-industrial temperatures.

# Calculation

There are three key steps to the calculation of temperature alignment:

## 1.

- Project a company's GHG emissions pathway to 2030

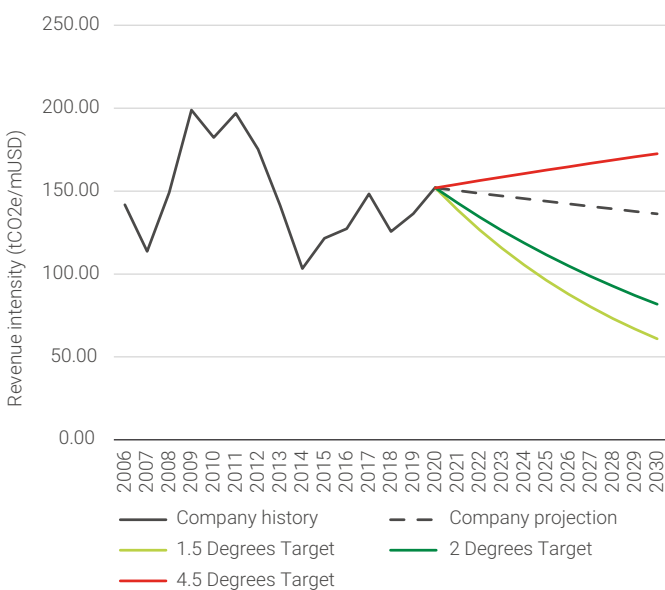
## 2.

- Project relevant science-based sector emissions targets using decarbonisation pathways from climate scenarios

## 3.

- Rate companies' temperature alignment by assessing carbon intensity against science-based targets

### Example output: Company temperature alignment



Source: LGIM Destination@Risk analysis April 2022

## 1.

We project companies' GHG emissions to 2030 considering both historical decarbonisation and future emissions-reduction targets. Using a decade of historical observations, we assess how companies have historically evolved their emissions, as well as any targets companies have set regarding future decarbonisation. We use a quantitative method for assigning a probability that targets will be met on a company basis.

## 2.

Companies are grouped into 'GHG peer groups', which are sectors with similar GHG emissions profiles based on primary business activity. From our internal scenario modelling, we then derive sector-specific pathways for required decarbonisation across four temperature outcomes: 1.5°C, 2°C, 4.5°C and 6°C.

## 3.

We can then compare companies' projected 2030 GHG emissions intensity with the decarbonisation pathways of various climate scenarios and assign a 'temperature alignment' score. In the illustration below, the company is aligned to around 3°C.

## Coverage

For most companies, implied temperature alignment is calculated based on Scope 1 and 2 GHG emissions.<sup>1</sup> We include LGIM estimates of Scope 3 GHG emissions for financials and oil and gas companies, where Scope 3 emissions are the largest component of companies' emissions.

Our methodology covers listed equities, corporate bonds, sovereign bonds and quasi-sovereign bonds. For sovereign bond holdings, we incorporate Climate Action Tracker country level alignment assessments, country decarbonisation targets and historical carbon data to calculate sovereign alignment scores which can be compared directly to corporate alignments. These reflect the latest country targets and progress to date.

<sup>1</sup>Scope 1 emissions are direct emissions from operations; Scope 2 emissions are those from purchased electricity, heat, steam and cooling; Scope 3 emissions are not directly controlled by the company but indirectly impacted by the company's purchases, sales and actions along its value chain.

LGIM temperature alignment is one component of the LGIM Destination@Risk toolkit, a suite of climate analytics tools developed to follow the recommendations of the TCFD. The toolkit can be used to assess potential climate scenarios, climate risk, temperature alignment, and gap risk to net zero. Please contact your LGIM representative for further information

## Contact us

For further information about LGIM, please visit [lgim.com](https://lgim.com) or contact your usual LGIM representative



### Key Risk

The value of an investment and any income taken from it is not guaranteed and can go down as well as up, you may not get back the amount you originally invested.

LGIM alignment scores and scenario analyses are constructed to follow the recommendations of the TCFD and are a quantitative expression of LGIM modelling and assumptions around the energy transition. We note that there are numerous portfolio metrics in development across the industry and advise caution in comparing scores across different methodologies at this stage. **The temperature alignment model relies on approximations, assumptions and external data, which could in turn include approximations, assumptions and errors, all of which could significantly alter results. LGIM has not validated each external input data point.** Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.

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