LGPS Central Limited

LGPS CENTRAL LIMITED

Portfolio & Real-World Decarbonisation in Public and Private Markets

NET ZERO STRATEGY FOR FINANCED EMISSIONS

October 2023

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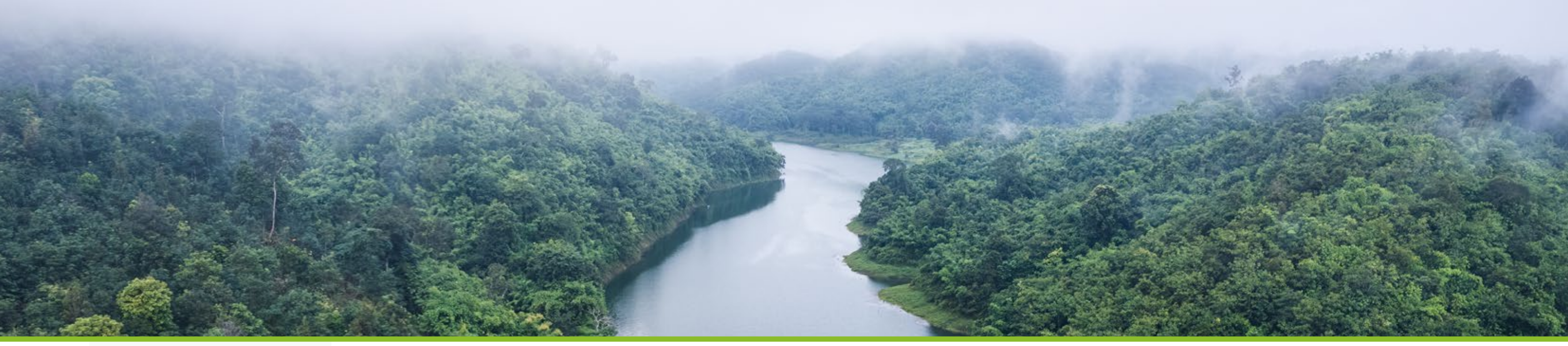
LGPS Central Limited

About LGPS Central Limited

LGPS Central Limited is an FCA-regulated institutional investment manager responsible for the pooled assets of eight Local Government Pension Funds in Central England (known hereinafter as Partner Funds). LGPS Central was formed in April 2018 and is owned equally by its Partner Funds.

At the end of 2022, the Partner Funds had combined assets of approximately £55 billion. LGPS Central managed £21 billion of Partner Funds' assets with 80% of their assets invested in listed equity (active and passive) and fixed income portfolios and 20% invested in private market portfolios (private equity, private credit, and infrastructure).



FOREWORD BY:

Joanne Segars
OBE, Chair

John Burns
Interim CEO

Foreword

The adoption of the Paris Agreement was a landmark in multilateral climate negotiations. At the time, we celebrated with tremendous relief and renewed optimism.

We also knew that reaching an agreement on a successor to the Kyoto Protocol was only the beginning and that governments, businesses and civil society need to collaborate more closely and allocate trillions of pounds worth of capital towards minimising global temperature rises and avoiding the worst effects of climate change.

The global response has been encouraging. Governments across all regions of the world have set net zero commitments, introduced climate legislations and allocated budgets for climate solutions. Businesses have been announcing climate targets, developing transition plans, disclosing their emissions performance, and rolling out carbon-reduction programmes. Civil society have been increasingly campaigning for more action and are transitioning towards a new low-carbon world.

Investors have also been committing to net zero targets and implementing climate strategies. In addition, they have been engaging with companies and governments on their climate ambitions and supporting investor-led organisations and initiatives whose mission is to help their members reduce their investment portfolio emissions. This collaborative work has permanently changed investment practices in the investment industry.

LGPS Central share the belief among investors that urgent climate action must start now, and that collaboration is the most effective way to achieve real-world decarbonisation. Consequently, we are actively engaging with companies, investors and responsible investment organisations and initiatives, such as the Transition Pathway Initiative and Climate Action 100+.

We also recognise that climate change poses financially-material risks, and that due consideration of climate risk falls within the scope of our fiduciary duty. Since our inception in 2018, we have taken steps to monitor and manage our exposure to climate risks and opportunities. For example, we launched our Climate Risk Monitoring Service (CRMS) to assist our Partner Funds with their strategic response to climate risk and we have integrated our climate expectations into our voting principles.

To align with the goals of the Paris Agreement, we announced two net zero targets in January 2022 that commit us to halve our portfolio emissions from listed equities and corporate bonds in 2030 and decarbonise all our assets to net zero by 2050. Subsequently, we have spent significant time on designing a net zero strategy that is relevant to our company and assets, and supportive of real-world decarbonisation.

We are proud of our net zero strategy and believe that it demonstrates leadership and responsible stewardship of assets. We are confident that we can meet our net zero targets and develop market-leading tools and practices that will reduce the carbon emissions generated by our assets.

While we know that net zero strategies are not one-size-fit-all, we hope that our net zero strategy assists investors in the development of their own net zero strategies and supports the development of more sophisticated climate tools and data. We look forward to working with other investors, companies and investor-led organisations to accelerate the positive momentum towards tackling climate change.

Executive Summary

What are LGPS Central's Net Zero Ambitions?

LGPS Central is committed to decarbonising its assets under management (referred to hereinafter as "pooled assets") in a manner that contributes to reducing global emissions to net zero by 2050.

To demonstrate our support for the goals of the Paris Agreement, we set two climate targets for our financed emissions – emissions associated with our pooled assets - at the beginning of 2022:

1) Net zero (scope 1 & 2 carbon equivalent (CO_2e)) financed emissions by 2050 or sooner for listed equities, corporate bonds, sovereign debt, and property.
2) 50% reduction of (scope 1 & 2 CO_2e) financed emissions by 2030 for listed equities and corporate bonds.

We have since designed a net zero strategy after extensive research of climate frameworks and associated guidance, and sectoral analysis of the financed emissions of our pooled assets. LGPS Central's net zero strategy is based on a twin-track target and implementation framework that includes:

- series of emission-reduction and engagement targets from 2025 to 2050 (See section LGPS Central's Climate Targets for a table that summarises our targets);
- carbon footprinting across all our public market and private market assets by 2026; and
- processes, practices, tools, and data for tracking progress and to decarbonise our assets.

The implementation of our net zero strategy and our approach to achieving our climate targets is through the integration of ESG and net zero considerations into our investment processes and stewardship activities. We will conduct in-depth climate analysis and collaborate with our external fund managers on the reduction of the carbon emissions generated by our pooled assets. We will also extend our existing stewardship programme with an increased focus on high emitters from our combined listed equity and corporate bond portfolio that have not implemented credible strategies or demonstrated progress towards net zero.

The effectiveness of our net zero strategy will be reviewed in 2026. However, we believe that we have an ambitious, credible, and practical net zero strategy that will remain relevant over time and is consistent with our fiduciary responsibility. We will actively share our experiences and collaborate with our peers to assist their net zero ambitions and to improve the availability and accuracy of climate data and tools.

Summary of Climate Targets

We have summarised our climate targets in the following table.

- The overarching target of net zero by 2050 or sooner for our pooled assets is found at the top of the table.
- The asset-class targets have been divided into two columns, highlighting our twin-track target and implementation framework for two asset-class groups: 1) listed equities and corporate bonds (left-hand side column); and 2) sovereign debt and private markets (right-hand side column).

The definitions of terms that are highlighted in quotation marks and followed with a superscript are found in the Glossary of Terms. The superscript corresponds with the bullet point in the Glossary of Terms.

POOLED ASSETS

PORTFOLIO TARGET

Net zero (scope 1 & 2 CO_2e) financed emissions[7] by 2050 or sooner

LISTED EQUITIES & CORPORATE BONDS

ASSET-CLASS TARGETS

EMISSION-REDUCTION TARGETS

50% reduction in (scope 1 & 2 CO_2e) financed emissions in 2030

Reduction of (scope 1 & 2 CO_2e) financed emissions per £m invested:

50% in 2030	**60%** in 2035	**80%** in 2040	**90%** in 2045	**100%** by 2050 or sooner

FOOTPRINTING TARGETS

Track **relevant** scope-3-category emissions of top 20 companies by scope 3 financed emissions in 2024

SOVEREIGN DEBT & PRIVATE MARKETS

ASSET-CLASS TARGETS

EMISSION-REDUCTION TARGETS

Net zero (scope 1, 2 & Scope 3, category 13 CO_2e) financed emissions **by 2050 or sooner** for direct property investments based on a "whole-building and operational approach"[11]

FOOTPRINTING TARGETS

Carbon footprints for all assets in 2024 using:

estimated scope 1 & 2 CO_2e emissions data for sovereign debt	estimated scope 1 & 2 CO_2e emissions for private market assets

Carbon footprints for all assets in 2025 using:

estimated scope 1 & 2 CO_2e emissions data for sovereign debt	estimated and **actual** scope 1 & 2 CO_2e emissions for private market assets

LISTED EQUITIES & CORPORATE BONDS

ALIGNMENT AND ENGAGEMENT TARGETS

Engagement with external managers on LGPS Central's net zero strategy and stewardship programme:
100% in 2023

Engagement threshold targets[2] for companies from "material sectors"[4]:

	Listed equities & corporate bonds	Active equities	Passive equities	Corporate bonds
2025	80%	85%	75%	85%
2030	90%	90%	90%	90%

Portfolio coverage targets[6] for companies from material sectors:

	Active equities	Passive equities	Corporate bonds
2030	50%	60%	50%
2035	75%	80%	75%
2040	100%	100%	100%

SOVEREIGN DEBT & PRIVATE MARKETS

ALIGNMENT AND ENGAGEMENT TARGETS

Engagement with external managers on climate targets and data:
100% in 2023

Net Zero Strategy & Implementation Plan

Strategy

Throughout the development of LGPS Central's net zero strategy, we have worked closely with our investment team, Investment Committee, Executive Committee, and our Board. Our shared aim was to implement a strategy that is all-encompassing and stretching so that LGPS Central is in the position to effectively decarbonise all pooled assets in the near term and long term.

The design of LGPS Central's net zero strategy is based on a twin-track target and implementation framework that covers **all public market and private market assets**. It has two objectives:

1) To decarbonise our pooled assets to net zero by 2050, while achieving interim climate targets for each asset class.
2) To contribute towards the global effort to reduce global emissions and achieve the goals of the Paris Agreement.

Interim Targets

To meet the first objective of our net zero strategy, we set interim targets for our pooled assets, spread between 2025 and 2050. The interim targets, which are in addition to the two climate targets set in 2022, were carefully selected for and allocated to two asset-class groups:

1) Listed equities and corporate bonds:
   - 5-year interval targets for financed emissions normalised by £m invested.
   - Multiple engagement threshold and portfolio coverage targets.
2) Sovereign debt and private markets:
   - Engagement with external managers on climate targets and data.
   - Targets for carbon footprinting.

All targets cover scope 1 & 2 CO_2e emissions. Scope 3 category 13 (downstream leased assets) emissions, which are emissions related to property and floorspace that we do not have operational control, is also included in the 2050 target for direct property investments.

A key milestone that shaped our target selection was carbon footprinting of our public market and private market assets in 2024 and 2025. This achievement will ensure that we can track the financed emissions from our entire pooled assets in 2026. The carbon footprints are also essential for the selection of portfolio companies for stewardship programmes to be designed for public markets and private markets. (Please refer to the relevant Targets & Implementation section for a more detailed explanation of our climate targets: for listed equities and corporate bonds, and for sovereign debt and private markets.)

Stewardship & ESG Integration

Stewardship is a core pillar to our net zero strategy and crucial for achieving its second objective, which is to decarbonise our pooled assets in a manner that contributes to the reduction of global emissions. We also rely on robust integration of ESG considerations into investment processes and in-depth analysis that rewards companies actively embracing the transition.

We recognise that contributing to global decarbonisation can only be done through ownership rather than a transfer of high emitting assets from our pooled assets to other investors. Therefore, our strategy for achieving LGPS Central's climate commitments is driven by the notion of being a good steward for those assets whose decarbonisation progress is integral for wider change in the real economy. We assertively deploy engagement and voting as tools for achieving net zero. We also seek to partner with external managers who share our commitment and integrate engagement outcomes into their investment decisions.

5 Phases of Implementation

The twin-track target & implementation framework at the core of our net zero strategy recognises the data and carbon footprinting challenges for each asset class. Moreover, the framework – which divides and applies specific targets to the abovementioned two asset-class groups – considers our expertise in carbon footprinting. While we have significant knowledge and experience in carbon footprinting of listed equity and corporate bond portfolios, we are in the process of building our understanding on the carbon footprinting of sovereign debt and private market assets. This has meant that we are at different phases of implementation for these asset-class groups.

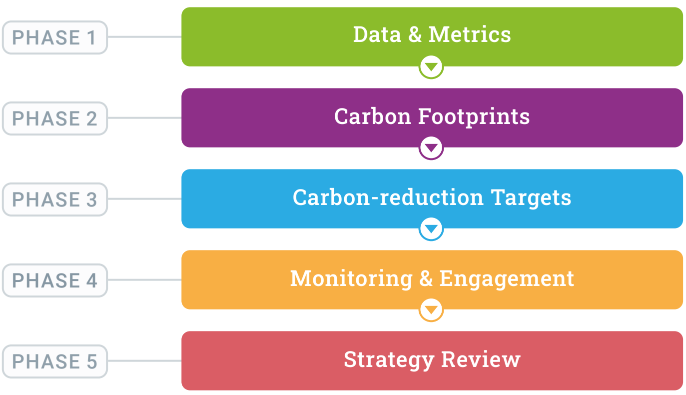
CLIMATE REPORTING FOR OUR PARTNER FUNDS

Since 2019, LGPS Central's Climate Risk Monitoring Service (CRMS) has been calculating carbon footprints for listed equity and corporate bond funds. The information from the carbon footprints have been used to generate climate risk reports and TCFD reports bespoke to our Partner Funds.

These reports offer in-depth analysis on climate risk at the portfolio level, asset-class level, and company level. They include the following climate metrics:

- Absolute financed emissions.
- Financed emissions normalised by £m invested.
- Weighted Average Carbon Intensity (WACI).
- Exposure to fossil fuel.
- Exposure to thermal coal reserves.
- Exposure to coal power.
- Exposure to clean technology.
- Net zero target coverage.

The five phases of implementation for both asset-class groups are identical:



The first and second phases involve identifying meaningful data metrics and sources and generating carbon footprints for each asset classes. We review industry norms and climate frameworks before testing and selecting indicators and methodologies for carbon footprinting.

Once we have calculated carbon footprints, we ascertain the emission sources at the strategy level, sector level and company level. This in-depth analysis provides invaluable information when setting realistic and stretching interim targets for carbon reduction. During phase 4, we monitor progress against these interim targets and engage with portfolio companies directly and through our external managers, engagement service providers and industry engagement vehicles.

The fifth phase of implementation involves the review of the strategy, targets, and stewardship activities for each asset-class group. In addition to this review, there will be a strategy review for all our pooled assets in 2026 to assess the progress of both asset-class groups. (We note that future events, such as a lack of innovation in private markets, may mean that the five phases of implementation are not completed in order.)

Currently, our listed equity and corporate bond portfolios are at phase 4 of implementation. Sovereign debt and private market portfolios are at phase 1 of implementation. While we have set targets for our sovereign debt and private market portfolios, they relate to completing phase 1 and 2. (We have elaborated on each track of our target and implementation framework in the sections: Targets & Implementation: Listed Equities & Corporate Bonds; and Targets & Implementation: Sovereign Debt & Private Markets.)

Climate Solutions & Offsetting

We recognise that the achievement of net zero requires investment in climate emission abatement technologies alongside effective corporate decarbonation and bold regulatory shift. We work with our Partner Funds in appointing managers with the objective of delivering the best returns for beneficiaries. Investment opportunities on climate solutions are considered within the mandate construction.

We do not intend to purchase carbon credits to offset our financed emissions. Off-setting, where required, is likely to be done by portfolio companies. Our role as a responsible owner and steward of assets is to scrutinise our portfolio companies' approach to off-setting and challenge where required. We expect portfolio companies to only deploy offsetting once decarbonisation efforts are exhausted.

Governance

Oversight responsibilities and implementation responsibilities for LGPS Central's net zero strategy have been distributed across the organisation (see Table 1).

Approval for our net zero strategy and oversight responsibilities rests with the Board. The Executive Committee is accountable for execution, undertaking quarterly reviews on the performance of the net zero strategy.

Implementation responsibilities lie with the investment teams and our Responsible Investment & Engagement (RI&E) team, who also has responsibility for strategy development and implementation. The RI&E team works closely with our investment committee and colleagues on the integration of climate risk into investment processes and across all asset classes. They report annually on the effectiveness of our net zero strategy to the Board, Executive Committee and Partner Funds.

TABLE 1

	PARTNER FUNDS	BOARD	EXECUTIVE COMMITTEE	INVESTMENT COMMITTEE	RI&E TEAM	INVESTMENT TEAM
Annual reporting	✓	✓	✓	✓		
Strategy approval & oversight responsibilities		✓				
Strategy execution accountability			✓			
Quarterly review			✓	✓		
Strategy development & implementation accountability					✓	
Implementation responsibilities					✓	✓

Targets & Implementation: Listed Equities & Corporate Bonds

Targets

EMISSION-REDUCTION TARGETS

In January 2022, LGPS Central committed to achieving a "50% reduction of financed emissions in 2030" target and "net zero by 2050 or sooner" target for listed equities and corporate bonds. We have now supplemented these commitments with interim targets.

Our interim emission-reduction targets are based on scope 1 & 2 CO_2e financed emissions normalised by £m invested, also known as portfolio carbon footprint. We believe that this normalised climate metric presents a more accurate reflection of the effectiveness of LGPS Central's net zero strategy as an increase/decrease in assets under management naturally brings an increase/decrease in absolute financed emissions.

Relative to 2019 baseline financed emissions (our approach to calculating the baseline financed emissions is detailed in the following section Base Year & Baseline Financed Emissions), we aim to reduce the portfolio carbon footprint of our combined listed equity and corporate bond portfolio by:

1) 50% in 2030
2) 60% in 2035
3) 80% in 2040
4) 90% in 2045
5) 100% by 2050

By setting these 5-year interval targets from 2030 to 2050, we have created a clear pathway to track the decarbonisation of our assets to net zero. In light of our commitment to the Paris Agreement, we have aligned our 2030, 2040 and 2050 targets with IPCC's pathways that limit global warming to 1.5°C.

We are conscious that ultimately net zero means net zero absolute emissions. As such we are also tracking the progress of our absolute emissions from 2019 onward and aiming to achieve 50% reduction of financed emissions in 2030.

ALIGNMENT AND ENGAGEMENT TARGETS

To meet our emission-reduction targets, we require our portfolio companies to reduce their scope 1 and 2 CO_2e emissions. We expect portfolio companies from material sectors to set medium-term and long-term science-based climate targets and report on their emissions performance. In addition, they must develop realistic, ambitious, and detailed net zero strategies.

LGPS Central has been engaging with companies on our climate expectations since inception. We will expand our stewardship activities and have set 2025 and 2030 engagement threshold targets that commit us to increase the percentage of financed emissions from portfolio companies in material sectors covered by engagements. There are targets specific for the combined listed equity and corporate bond portfolio and the underlying asset classes active equities, passive equities, and fixed income. These targets are known as engagement threshold targets and found in Table 2.

TABLE 2: ENGAGEMENT THRESHOLD TARGETS FOR COMPANIES FROM MATERIAL SECTORS

	Listed equities & corporate bonds	Active equities	Passive equities	Corporate bonds
Current Engagement threshold	74.6%	80.7%	70.7%	80.9%
2025 target	80%	85%	75%	85%
2030 target	90%	90%	90%	90%

We have defined our engagement threshold target as the percentage of the financed emissions from portfolio companies in material sectors that are: 1) indirectly or directly engaged by LGPS Central; or 2) aligned or aligning with a net zero pathway.

To qualify as a "company that is engaged", LGPS Central must:

- exercise their voting rights in line with its net zero ambition;
- engage directly or indirectly through our external managers, engagement service providers and collaborative engagement vehicles such as Climate Action 100+; and
- conduct two meaningful engagement interactions a year with the company's senior representatives by either LGPS Central, an external manager, engagement service provider or a collaborative engagement vehicle.

To be labelled as a company that is either "aligned or aligning with a net zero pathway", it must:

- achieve a carbon transition score or equivalent score of more than 5; and
- meet one of the following criteria:
  - the company has medium-term and long-term science-based climate targets; or
  - an implied temperature rise rating of 2.0°C or lower.

Our current engagement threshold across our listed equities and corporate bonds is 74.6%. This was calculated using our holdings at the end of 2022 and with the most recent available scope 1 & 2 CO_2e emissions data. When reviewing the current engagement threshold across asset class, our engagement thresholds for active equities (80.7%) and corporate bonds (80.9%) are significantly higher than for passive equities (70.7%). We plan to increase our engagement threshold to 90% by 2030 for all asset classes and the combined listed equity and corporate bond portfolio.

In addition to our engagement threshold targets, we have set a series of portfolio coverage targets for active equities, passive equities, and corporate bonds (see Table 3). Our definition for a portfolio coverage target is "the percentage of financed emissions from portfolio companies in material sectors that are either aligned or aligning with a net zero pathway".

A review of methodologies for classifying companies as either "aligned or aligning with a net zero pathway" found that there were several methodologies used by investors. As these methodologies generated a range of current portfolio coverage from 1% to 44% (this range of results is likely to be a function of the different sectors and asset classes that form the universe for calculating current portfolio coverage), we decided to develop and test a variety of methodologies that we believe will encourage companies to align with a net zero pathway.

Under our chosen methodology, to be identified as "aligned" or "aligning", companies need to achieve a climate transition score or equivalent score of more than five from our data provider. Companies with a score that is less than five are considered to not have developed a net zero strategy that effectively manages the risks associated with a low carbon transition.

Companies must also either set medium and long-term science-based climate targets or accomplish an implied temperature score of 2.0°C or lower. The purpose of this criteria is to recognise companies that may be meeting or outperforming their carbon budget (as measured by an implied temperature score) in the absence established targets.

Our 2022 portfolio coverage was 11.6%, 23.4% and 19.5% for active equities, passive equities, and corporate bonds respectively. These figures demonstrate the importance of robust engagement with our portfolio companies to achieve our portfolio coverage targets. To ensure that our external managers are supportive of achieving our portfolio coverage targets and are therefore engaging companies on their net zero strategy, targets and performance, we will arrange meetings with them in 2023 to explain our net zero strategy and discuss our net zero stewardship programme.

TABLE 3: PORTFOLIO COVERAGE TARGETS FOR COMPANIES FROM MATERIAL SECTORS

	Active equities	Passive equities	Corporate bonds
Current portfolio coverage	11.6%	23.4%	19.5%
2030 target	50%	60%	50%
2035 target	75%	80%	75%
2040 target	100%	100%	100%

SCOPE 3 EMISSIONS

For some sectors and companies, the assessment of material categories of scope 3 emissions is more insightful than scope 1 & 2 CO_2e emissions (see Glossary of Terms for the 15 categories of scope 3 emissions). For instance, category 11 "Use of sold products", scope 3 emissions of an oil & gas company can represent more emissions than its scope 1 and 2 emissions.

The availability of reported scope 3 emissions is limited and there is a huge reliance on estimated scope 3 emissions calculated using a variety of methodologies. This makes it difficult to paint a true picture of the scope 3 emissions of companies and portfolios. However, as Scope 3 emissions can be an indicator of the potential risks to a company, we will track the most relevant categories of scope 3 emissions of the top 20 portfolio companies by scope 3, financed emissions.

REGIONAL PATHWAYS

The geographical presence of portfolio companies is an important consideration for assessing portfolio companies' net zero ambitions and climate risk exposure, and for their eligibility for the net zero stewardship programme. Emerging countries are developing their infrastructure, including new fossil power stations, to support their nation and increase their standard of living. While we believe that emerging countries and their domiciled companies should decarbonise their economies over the long term, we also believe that they should not be assessed against the same emission pathways as developed countries and their domiciled companies.

Therefore, portfolio companies domiciled and predominantly operating in developed countries are expected to meet medium-term climate targets and net zero targets sooner than portfolio companies domiciled and predominantly operating in emerging countries. These regional considerations are to be built into our net zero and climate tools to identify the headquarters and geographical distribution of revenue of portfolio companies for our qualitative assessment of their net zero performance relative to their regional peers. We will also look for and apply credible regional pathways to perform quantitative assessments of portfolio companies.

Base Year & Baseline Financed Emissions

A key step to setting our targets was choosing a base year and calculating our baseline financed emissions. By knowing our baseline financed emissions and the composition of our financed emissions, we were able to commit to targets that are both ambitious and credible.

We have selected 2019 as our base year for listed equities and corporate bonds as this is the first year that we began calculating our carbon emissions. Using 2019 data also avoids the vagaries in emissions data introduced by COVID 19 (covid-19 caused a 5.6% drop in global emissions in 2020). This approach is consistent with many investors.

Our baseline financed emissions are 1,067,851 tCO_2e. We calculated our baseline financed emissions using 2019 carbon data and the 2022 year-end market values and EVIC (enterprise value including cash) values of our listed equity and corporate bond holdings held at the end of 2022 (see Table 4 for data coverage for calculating our baseline finance emissions). The main reason for using 2022 holdings is our combined listed equity and corporate bond portfolio is very different to what it was in 2019. The portfolio was much smaller in 2019 and didn't hold any corporate bonds. Another reason was we were more interested in understanding the carbon performance of our current portfolio holdings as this provides an indication of our future carbon performance and is the basis for our engagement prioritisation.

TABLE 4: DATA COVERAGE FOR CALCULATING THE BASELINE FINANCED EMISSIONS

	% Market value of companies with data
Scope 1 data	91%
Reported scope 1 data	80%
Scope 2 data	91%
Reported scope 2 data	79%
EVIC	97%

We will use the actual holdings and their market value and EVIC at the end of each year when monitoring and recording our financed emissions beyond 2022. Indicative figures for financed emissions from listed equities and corporate bonds will be calculated and monitored internally in July and December. Due to data lag issues - companies can report their emissions data more than a year later - the official figure will be available as soon as we have reached 80% reported emissions and EVIC data coverage.

Net Zero Implementation

CARBON FOOTPRINTING & NET ZERO ANALYSIS

With the baseline emissions and the 2020 and 2021 financed emissions of the combined listed equity and corporate bond portfolio calculated, we are now monitoring the emissions performance of our listed equities and corporate bonds and therefore at stage 4 of the implementation plan. We calculate and analyse their absolute financed emissions, financed emissions normalised by £m invested and WACI. We also determine the percentage of reported and estimated scope 1 and scope 2 CO_2e emissions data.

These metrics are calculated for our combined listed equity and corporate bond portfolio. We aggregate the holdings of all companies – combining holdings across asset classes and external funds. This approach provides us with the opportunity to identify which companies contribute the largest percentage of financed emissions to LGPS Central's financed emissions.

We also aggregate assets to create active equity, passive equity, and corporate bond portfolios. This allows for monitoring of the impact of each asset class on our combined listed equity and corporate bond portfolio. It also provides insights on which underlying listed equity and corporate bond funds run by our external managers are contributing the most financed emissions at the pool level and asset-class level.

The underlying funds will have different carbon intensities and different decarbonisation trajectories. They will therefore be reviewed in isolation and based on their contribution to the decarbonisation of the combined listed equity and corporate bond portfolio. (We will consider the asset class, investment style, geography of investment universe, and the relative state of net zero integration of the external manager.)

MANAGER MONITORING

Our net zero analysis will be conducted twice a year and cover assessments at all levels, including the combined listed equity and corporate bond portfolio, asset-class level, and fund level. The insights from our net zero analysis and the annual net zero questionnaire sent to each external manager will be discussed during biannual net zero meetings starting in 2024, where we will scrutinise their past carbon performance, expectations for future carbon performance, engagement outcomes and voting decisions.

In addition to our net zero analysis, our external managers provide their climate analysis to our investment team. We will compare their carbon data and performance with our net zero analysis during the biannual net zero meetings.

NET ZERO STEWARDSHIP PROGRAMME

During the calculation of our combined listed equity and corporate bond portfolio's baseline financed emissions, we discovered that 96% of its financed emissions were generated by 59% of the portfolio companies. These companies are classified under NACE codes A to H (see Glossary of Terms for sector names/descriptions for NACE codes A to H).

Further analysis showed that 50 companies from these sectors contributed 59% of the financed emissions of the portfolio. Due to this majority coverage of financed emissions by a small percentage of portfolio companies – as well as the large resource required to engage with 1,786 companies that generate 96% of the portfolio's financed emissions - we are developing a focused net zero stewardship programme on the top companies by financed emissions from material sectors. This approach will ensure that we concentrate our resources on engaging with a smaller number of systemically important companies, which will ultimately deliver a more effective stewardship programme.

The net zero stewardship programme will include direct and indirect engagements with portfolio companies. We will work with our engagement service provider, external managers, and industry partners (including Climate Action 100+ and LAPFF) to meet our engagement threshold targets and to encourage portfolio companies to set medium-term and long-term science-based climate targets, report on their emissions performance, and develop ambitious and detailed net zero strategies.

Another tool in our stewardship programme is voting on climate resolutions and against the chair, directors, or report & accounts if we have concerns about their climate performance or disclosure. We link our voting decisions to the outcomes of our direct and indirect engagements and write to all portfolio companies that we have prioritised for net zero engagement purposes to explain our rationale when we vote against management.

Targets & Implementation: Sovereign Debt & Private Markets

Targets

Our targets for our sovereign debt and private market portfolios reflect the analytical challenges associated with these asset classes. The current approach to measuring and interpreting carbon data is complex and qualitative in nature. For example, our net zero analysis for our sovereign debt portfolio will need to consider the relationship between a country's emissions and how the energy transition will affect their economy, especially those in emerging markets. Consideration should also be given to the extent to which a country's emissions are generated by economic activities supportive of the transition, such as the provision of essential energy transition minerals.

Another factor that influenced our target setting in the sovereign debt and private market asset classes is the availability of carbon data and the sophistication of the analytical tools and methodologies currently available. The low levels of reported and estimated data for private market assets, for instance, have encouraged investors to prioritise the carbon footprinting and target-setting for listed equities and corporate bonds before infrastructure, private debt, private equity, and property.

Due to these challenges and because of our level of carbon footprinting experience within these asset classes, we are focused on developing our analytical capabilities. We have set carbon footprinting targets for our sovereign debt and private market portfolios that commit us to generating carbon footprints in 2024 and 2025 (see Table 5). In addition, we have targets for engaging with all external managers in 2023 on our net zero strategy and our expectations for them to provide actual emissions data and set net zero targets.

TABLE 5

	Carbon footprints in 2024	Carbon footprints in 2025
Sovereign debt	Estimated scope 1 & 2 CO_2e emissions data	Estimated scope 1 & 2 CO_2e emissions data
Private market assets	Estimated scope 1 & 2 CO_2e emissions data	Estimated and actual scope 1 & 2 CO_2e emissions data

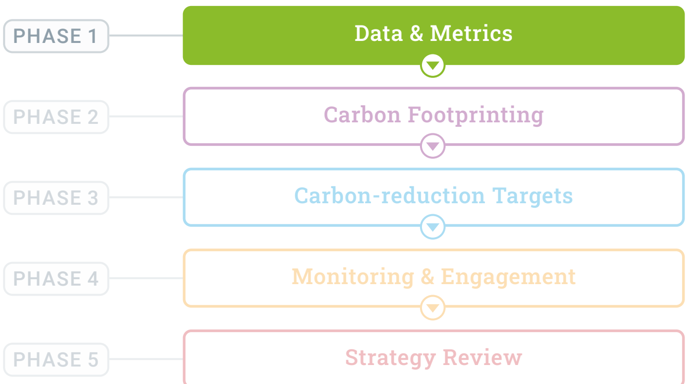
There are long-term, carbon-reduction targets for our sovereign debt and our direct property portfolios. However, it is difficult to set short- and medium-term targets for our sovereign debt portfolios due to several reasons, including the need to consider a fair pathway to net zero for each country. As we only recently launched a direct property fund and assets have not yet been acquired, this also presents barriers to setting short- and medium-term targets for our direct property portfolio.

The long-term targets are net zero (scope 1 & 2 CO_2e) financed emissions by 2050 or sooner for our sovereign debt portfolio and net zero (scope 1, 2 & Scope 3, category 13 CO_2e) financed emissions by 2050 or sooner for our direct property portfolio based on a "whole-building and operational approach". The "whole-building and operational approach" - recommended by the Net Zero Asset Owner Alliance - refers to the methodology used for accounting of carbon emissions and the setting of climate targets for a portfolio of fully owned and partly owned property. It includes energy-related emissions from parts of the property that we have operational control (e.g., common spaces) and energy-related emissions from parts of property that we don't have operational control (e.g., tenant spaces).

Net Zero Implementation

CARBON FOOTPRINTING & NET ZERO ANALYSIS

We are at the beginning of our journey with carbon footprinting our sovereign debt and private market portfolios. However, we are developing our expertise quickly by leveraging on our experience with carbon footprinting our listed equity and corporate bond portfolios.



We expect to complete phases 1 and 2 of implementation for our sovereign debt and private market assets in 2025. We have recently sourced third-party, emissions data for these assets and will collate relevant datapoints in 2024. In the same year, we will generate carbon footprints at the sovereign debt level, private market level, and for the underlying private market portfolios. In total, we will have six asset-class carbon footprints for the following portfolios:

1) Sovereign debt.
2) Private equity co-investments.
3) Infrastructure.
4) Private credit.
5) Private equity.
6) Direct property.

Our sovereign debt portfolio will use estimated emissions in 2024 and 2025. Its carbon footprint will be analysed alongside a variety of different metrics, including the willingness and ability of a country to decarbonise.

In the first year of carbon footprinting our private market portfolios (portfolios 2 to 6), these portfolios will also be reliant on estimated emissions data. We will progressively use actual emissions data that is sourced from our external private market managers. This collection of scope 1, scope 2 and carbon intensity data will begin in 2024. The goal is to generate carbon footprints in 2025 that use a mix of estimated and actual scope 1 & 2 CO_2e emissions data.

MANAGER MONITORING IN PRIVATE MARKETS

In addition to collecting emissions data from our external private market managers, we are collating their net zero commitments. Our external managers have already responded to net zero questionnaires that requested information on their climate metrics and targets at the firm level and fund level. We will send out our net zero questionnaires annually to understand whether their commitments have changed and how our external managers are looking to manage their exposure to climate risks and the low carbon transition.

From 2024, we will run annual net zero meetings with private market managers. During these meetings, we will discuss their net zero commitments, and generate and implement a plan to collect actual emissions data from portfolio companies.

ENGAGEMENT IN SOVEREIGN DEBT

A nuanced engagement approach is required with sovereign debt issuers. Engagement is extremely difficult in this asset class and the unintended consequences of tilting away from emerging market issuers is a concern, especially when developing countries need finance to fund their climate transition and adaptation.

Coordinated and collaborative engagement is essential if progress is to be made in this asset class. We will be exploring opportunities to engage with carefully selected issuers through industry engagement initiatives.

Next steps

Now that we have published this report on our net zero strategy for financed emissions, we are working on delivering the immediate commitments of its twin-track target and implementation framework. These commitments include:

- **Listed equity and corporate bond portfolios:**
  - calculate annual carbon footprints;
  - develop a focused net zero stewardship programme on the top companies by financed emissions from material sectors; and
  - engage and collaborate with external managers on achieving our net zero targets.
- **Sovereign debt and private market portfolios:**
  - engage with our external private market managers on understanding their net zero commitments and collecting actual emissions data of portfolio companies; and
  - achieve 2024 and 2025 carbon footprints for our six portfolios: sovereign debt; private equity co-investments; infrastructure; private credit; private equity; and direct property.

We are also working on allocating net zero targets and designing a strategy for our operational emissions. Already, we have made significant progress and are aiming to publish these targets and a strategy in the first half of 2024.

At the beginning of 2026, we will review our net zero strategy for financed emissions to assess whether we are likely to achieve our 2030 targets. A 3-year strategy review will provide an appropriate amount of time to analyse the results of our net zero stewardship programme and engagements with external listed equity and corporate bond managers. We can also assess our achievements with generating carbon footprints for our sovereign debt and private market portfolios.

Moreover, net zero strategies, methodologies and analyses are constantly evolving and improving. We expect that these advancements in net zero tools and data - for example more availability of scope 3 emissions – will mean that additional targets may need to be set.

Another reason for reviewing our strategy in 2026 is the climate transition relies on governmental and regulatory support, public and private funding, and the commercialisation of climate technologies, among other factors. These factors can affect the pace of portfolio and real-world decarbonisation and therefore we will need to consider the forever-changing regulatory, investment and technological landscape in our strategy review.

Glossary of Terms

1	**CARBON EQUIVALENT (CO_2E) EMISSIONS**	A carbon dioxide equivalent or CO_2 equivalent, abbreviated as CO_2e is a metric measure used to compare the emissions from various greenhouse gases on the basis of their global-warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential (European Commission (Source: Glossary: Carbon dioxide equivalent - Statistics Explained (europa.eu))
2	**ENGAGEMENT THRESHOLD TARGET**	Targets on percentage of financed emissions from portfolio companies in material sectors that are: 1) indirectly or directly engaged by LGPS Central; or 2) aligned or aligning with a net zero pathway.
3	**FINANCED EMISSIONS**	This category includes scope 3 emissions associated with the reporting company's investments in the reporting year, not already included in scope 1 or scope 2. This category is applicable to investors (i.e., companies that make an investment with the objective of making a profit) and companies that provide financial services. This category also applies to investors that are not profit driven (e.g., multilateral development banks), and the same calculation methods should be used. Investments are categorized as a downstream scope 3 category because providing capital or financing is a service provided by the reporting company Chapter15.pdf (ghgprotocol.org).
4	**MATERIAL SECTORS**	Material sectors refer to the groups of companies with business activities classified under NACE codes A to H: • A – Agriculture, Forestry and Fishing. • B – Mining and Quarrying. • C – Manufacturing. • D – Electricity, Gas, Steam and Air Conditioning Supply. • E – Water Supply; Sewerage, Waste Management and Remediation Activities. • F – Construction. • G – Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles. • H – Transportation and Storage.
5	**NACE CODES**	"NACE (Nomenclature of Economic Activities) is the European statistical classification of economic activities. NACE groups organizations according to their business activities". The IIGCC Net Zero Framework uses the NACE classification to define "material sectors". Complete list of all NACE Code (nacev2.com)
6	**PORTFOLIO COVERAGE TARGET**	Targets on percentage of financed emissions from portfolio companies in material sectors that are either aligned or aligning with a net zero pathway.
7	**(SCOPE 1 AND 2 CO_2E) FINANCED EMISSIONS**	The amount of scope 1 and 2 CO_2e emissions of a company that is apportioned to a portfolio.
8	**SCOPE 1 EMISSIONS**	Scope 1 emissions are direct emissions from owned or controlled sources (Source: GHG Protocol).
9	**SCOPE 2 EMISSIONS**	Scope 2 emissions are indirect emissions from the generation of purchased energy (Source: GHG Protocol).

10	**SCOPE 3 EMISSIONS**	Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions (Source: GHG Protocol). There are 15 categories of scope 3 emissions: • Category 1 – purchased goods and services. • Category 2 – capital goods. • Category 3 – fuel- and energy-related activities (not included in scope 1 or scope 2). • Category 4 – upstream transportation and distribution. • Category 5 – waste generated in operations. • Category 6 – business travel. • Category 7 – employee commuting. • Category 8 – upstream leased assets. • Category 9 – downstream transportation and distribution. • Category 10 – processing of sold products. • Category 11 – use of sold products. • Category 12 – end-of-life treatment of sold products. • Category 13 – downstream leased assets. • Category 14 – franchises. • Category 15 – investments.
11	**WHOLE-BUILDING AND OPERATIONAL APPROACH**	This approach refers to the methodology used for accounting of carbon emissions and the setting of climate targets for a portfolio of fully-owned and partly-owned property. This methodology includes energy-related emissions from parts of the property that we have operational control (e.g., common spaces) and energy-related emissions from parts of property that we don't have operational control (e.g., tenant spaces).

LGPS Central Limited