



VALUATION REPORT

The Royal Borough of Greenwich Pension Fund

Actuarial valuation as at 31 March 2022

Barry McKay FFA

Barnett Waddingham LLP

31 March 2023



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Executive summary

Some of the key results contained within this report are set out below:

1. Funding position

Using the agreed assumptions, the Fund had assets sufficient to cover 103% of the accrued liabilities as at 31 March 2022, which has increased from 97% at the 2019 valuation.

2. Contributions

Individual employer contributions are set out in Appendix 5 in the Rates and Adjustments Certificate to cover the period from 1 April 2023 to 31 March 2026. No employer is permitted to pay their deficit over a period greater than 20 years from 1 April 2023.

3. Method and assumptions

The resulting method and assumptions are set out in Appendix 2 and we believe they are appropriate for the 31 March 2022 valuation. The key assumptions used are a discount rate assumption of 4.8% p.a. and a CPI inflation assumption of 2.9% p.a.

4. Investment performance

Investment returns have been strong since the previous valuation, but gains in the funding position have been partially offset by a reduction in future anticipated investment returns net of inflation (i.e. a reduction in the real discount rate).

5. Regulatory changes

There have been a number of important regulatory changes since the 2019 valuation including McCloud, Cost management and Climate risk.

Details of how we have approached each change is detailed in this report.

Background

We have been asked by The Royal Borough of Greenwich, the administering authority for the The Royal Borough of Greenwich Pension Fund (the Fund), to carry out an actuarial valuation of the Fund as at 31 March 2022. The Fund is part of the Local Government Pension Scheme (LGPS), a defined benefit statutory scheme administered in accordance with the Local Government Pension Scheme Regulations 2013 (the Regulations) as amended.

The purpose of the valuation is to review the financial position of the Fund and to set appropriate contribution rates for each employer in the Fund for the period from 1 April 2023 to 31 March 2026 as required under Regulation 62 of the Regulations.

This report summarises the results of the valuation and is addressed to the administering authority of the Fund. It is not intended to assist any user other than the administering authority in making decisions or for any other purpose and neither we nor Barnett Waddingham LLP accept liability to third parties in relation to this advice.

This report is provided further to earlier advice dated 19 October 2022 which set out the background to the valuation and explained the underlying methods and assumptions derivation.

This advice complies with Technical Actuarial Standards (TASs) issued by the Financial Reporting Council – in particular TAS 100: Principles for Technical Actuarial Work and TAS 300: Pensions.

We would be pleased to discuss any aspect of this report in more detail.

Valuation methodology

Setting contributions

The contribution rates consist of two elements, the primary rate and the secondary rate:

- The **primary rate** for each employer is the employer's future service contribution rate (i.e. the rate required to meet the cost of future accrual of benefits) expressed as a percentage of pay.
- The **secondary rate** is an adjustment to the primary rate to arrive at the total rate each employer is required to pay (for example, to allow for deficit recovery). The secondary rate may be expressed as a percentage of pay or a monetary amount.

Regulation 62 specifies four requirements that the actuary "must have regard" to:

1. The existing and prospective liabilities arising from circumstances common to all those bodies
2. The desirability of maintaining as nearly a constant a primary rate as possible
3. The current version of the administering authority's Funding Strategy Statement (FSS)
4. The requirement to secure the "solvency" of the pension fund and the "long-term cost efficiency" of the Scheme, so far as relating to the pension fund

The wording of the second objective is not ideal in that it appears to be aimed towards the primary rate rather than taking into account the surplus or deficit of the employer. We believe that if we achieve reasonably stable total individual employer rates (which seems like a preferable objective) then we will also meet the regulatory aim.

CIPFA's FSS guidance includes further details, summarised as follows:

- "**solvency**" means ensuring that employers are paying in contributions that cover the cost of benefit accrual and target a fully funded position over an appropriate time period using appropriate actuarial assumptions, and
- "**long-term cost efficiency**" means that employers have the financial capacity to increase contributions (or there is an alternative plan in place) should contributions need to be increased in future.

Assumptions used

We have considered these four requirements when providing our advice and choosing the method and assumptions used.

A number of reports and discussions have taken place with the administering authority and, where required, its investment advisors before agreeing the assumptions to calculate the results and set contribution rates. In particular:

- The initial results report dated 24 October 2022 provides information and results on a whole fund basis as well as background to the method and derivation of the assumptions.
- The climate analysis report dated 21 December 2022 which considers climate risk in the context of the Fund's 2022 actuarial valuation. It considers whether the 2022 valuation funding strategy is sufficiently robust in the context of this climate scenario analysis and any potential contribution impacts.
- The FSS which will confirm the approach in setting employer contributions.

Note that not all of these documents may be in the public domain and may be restricted to the administering authority which has no obligation to share them with any third parties.

The assumptions detailed in this report have been agreed with the administering authority. The Fund's FSS has been reviewed in collaboration with the administering authority to ensure that it is consistent with this approach. The FSS complies with the latest version of CIPFA's FSS guidance but we understand that this guidance is currently under review by the Scheme Advisory Board's Compliance and Reporting Committee. This updated guidance had not come into effect as at the date of this report.

We confirm that in our opinion the agreed assumptions are appropriate for the purpose of the valuation. Assumptions in full are set out in Appendix 2.

Valuation of liabilities

To calculate the value of the liabilities, we estimate the future cashflows which will be made to and from the Fund throughout the future lifetime of existing active members, deferred benefit members, pensioners and their dependants. We then discount these projected cashflows using the discount rate which is essentially a calculation of the amount of money which, if invested now, would be sufficient together with the income and growth in the accumulating assets to make these payments in future, using our assumption about investment returns.

This amount is called the present value (or, more simply, the value) of members' benefits. Separate calculations are made in respect of benefits arising in relation to membership before the valuation date (past service) and for membership after the valuation date (future service).

To produce the future cashflows or liabilities and their present value we need to formulate assumptions about the factors affecting the Fund's future finances such as inflation, salary increases, investment returns, rates of mortality and staff turnover etc.

The assumptions used in projecting the future cashflows in respect of both past service and future service are summarised in Appendix 2.

Valuation of assets

We have been provided with Fund accounts for each of the three years to 31 March 2022.

The market asset valuation as at 31 March 2022 was £1.64bn. Please note that this excludes members' additional voluntary contributions (AVCs).

For the purposes of the valuation, we use a smoothed value of the assets rather than the market value. The financial assumptions that we use in valuing the liabilities are smoothed around the valuation date so that the market conditions used are the average of the daily observations over the period 1 January 2022 to 30 June 2022. Therefore, we value the assets in a consistent way and apply the same smoothing adjustment to the market value of the assets.

The smoothed asset valuation as at 31 March 2022 was £1.61bn. This was based on a smoothing adjustment of 98.6%. More detail can be found in Appendix 1.

The Fund's long-term investment strategy has been taken into consideration in the derivation of the discount rate assumption. The investment strategy is set out in the Fund's Investment Strategy Statement (ISS) that should be made publicly available on the Fund's website.

Previous valuation results

The previous valuation was carried out as at 31 March 2019. The results are summarised in the valuation report dated 30 March 2020 and reported a deficit of £45.3m.

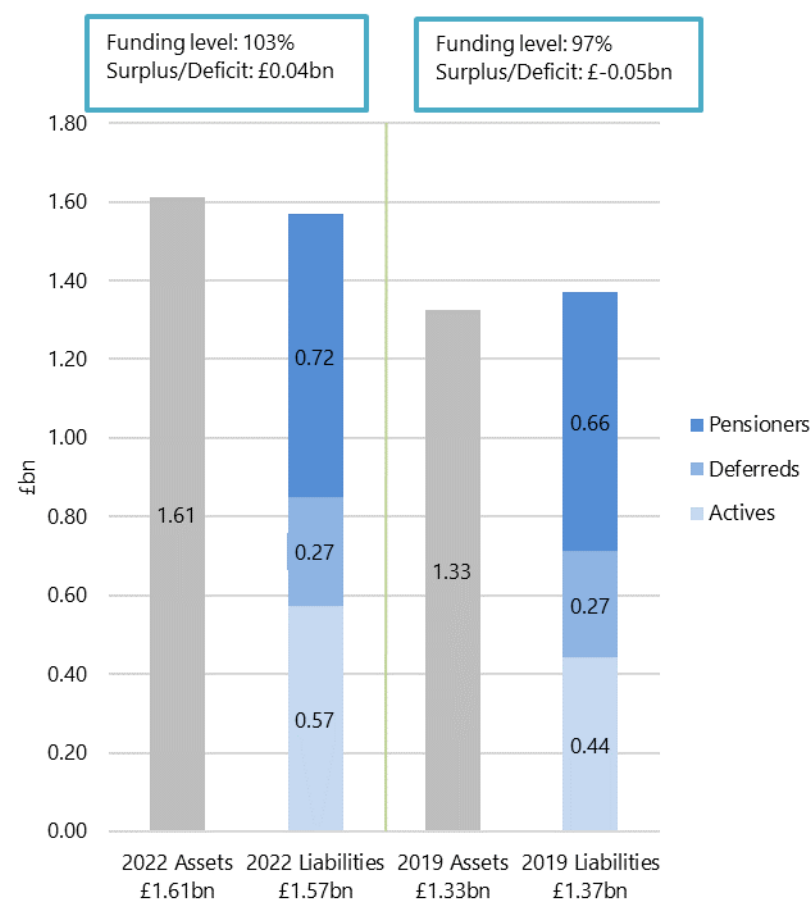
Results

Funding position

A comparison is made of the value of the existing assets with the value of the accrued liabilities. If there is an excess of assets over the liabilities then there is a surplus. If the converse applies there is a deficit.

Using the assumptions summarised in Appendix 2, the funding position is set out in the graph below. This shows the funding position of the Fund at the current and previous valuation dates.

There was a surplus of £43.8m in the Fund at the valuation date, corresponding to a funding level of 103%.



Contribution rates

Primary rate

Using the assumptions summarised in Appendix 2, the resulting average primary rate across the whole Fund is set out in the table below (after allowing for member contributions). This includes a comparison to the primary rate at the previous valuation.

The primary rate for the whole Fund is the weighted average (by Pensionable Pay) of the individual employers' primary rates.

Primary rate	2022 valuation % of payroll p.a.	2019 valuation % of payroll p.a.
Average total future service rate	24.9%	23.3%
Less average member rate	-6.8%	-6.7%
Fund primary rate	18.1%	16.6%

Active members pay contributions to the Fund as a condition of membership in line with the rates required under the Regulations.

Please note that expenses are allowed for in the derivation of the discount rate and therefore we make no explicit allowance in the primary rate for expenses.

Secondary rate

The secondary rate is an adjustment to the primary rate to arrive at the total rate each employer is required to pay (for example, to allow for deficit recovery). Where there is a deficit, contributions should be set to restore the funding positions to 100% over an agreed "recovery period".

The recovery period for individual employers varies across the Fund. The administering authority's approach to setting recovery periods is set out in the FSS. Where there is a surplus, this may also be reflected in contribution rates in line with the Fund's FSS.

The primary and secondary rate of the individual employer contributions payable are set out in the Rates and Adjustments Certificate in Appendix 5. These will differ from the primary rate set out above as well as varying from each other as they are either based on the employer's own membership and experience or they are the employer's share of the contributions payable within a pool of employers.

In Appendix 5 we also disclose the sum of the secondary rates for the whole Fund for each of the three years beginning 1 April 2023.

The secondary contributions agreed with the administering authority have been set at this valuation in order to restore the Fund to a funding position of 100% by no later than 2043.

Projected funding position

Based on the assumptions as set out in Appendix 2 and the contributions certified and set out in Appendix 5, we estimate that the funding position of the whole fund may increase to 104% by 31 March 2025, the next valuation date. This projection is based on the assumptions made for this valuation and contributions being paid at the agreed amounts. This projection does not allow for any actual experience since 31 March 2022 nor any other risks or uncertainties. Some of these additional risks are set out later in this report and in Appendix 3.

Standardised basis

Following the funding valuation, a "Section 13" report (prepared under Section 13 of the Public Service Pensions Act 2013) will be prepared to report on whether the following aims are achieved: compliance, consistency, solvency and long-term cost efficiency, and to identify any funds that cause concerns.

As part of our calculations we have considered the results on a standardised basis as set by the Scheme Advisory Board (SAB). We are required to provide the SAB with the results for the Fund for comparison purposes.

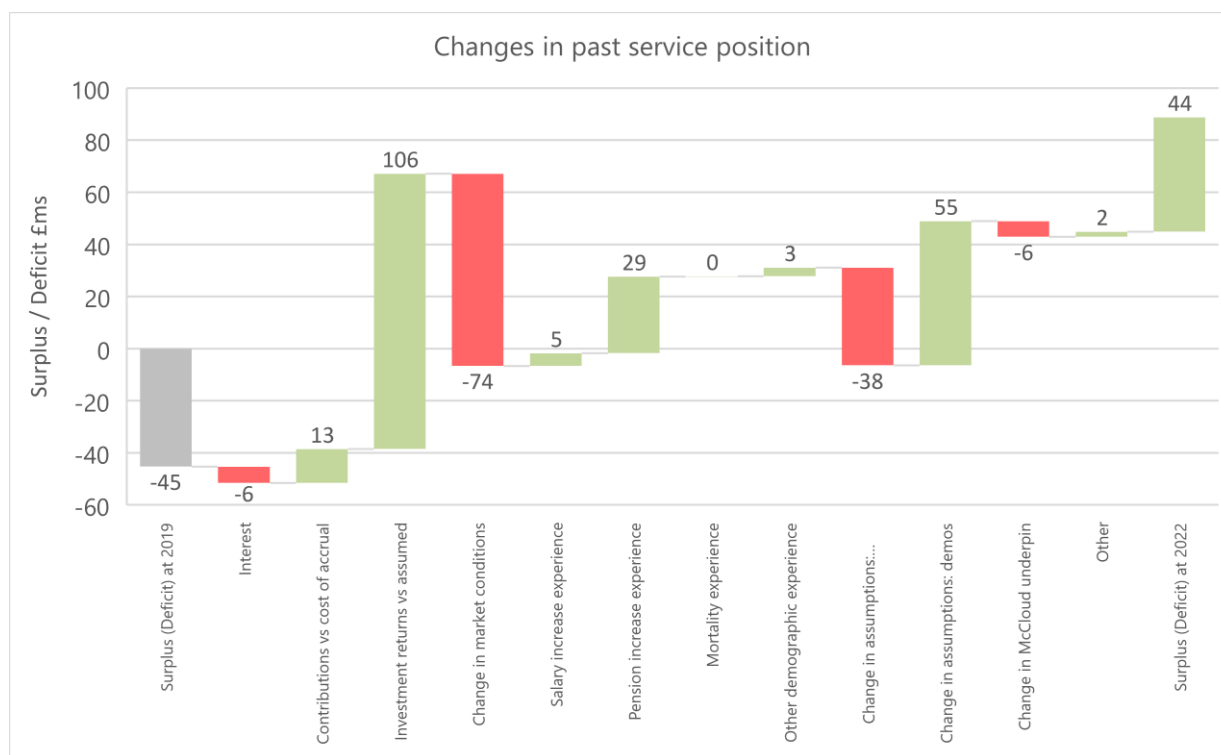
The standardised basis is set using assumptions advice from the Government Actuary's Department (GAD) with some of the assumptions used being set locally (such as mortality) and some are set at Scheme level (including all the financial assumptions). It is not used to set contributions as it does not reflect the Fund's investment strategy or the administering authority's attitude to risk; contributions are set using the funding basis.

The results on the standardised basis as at 31 March 2022 are set out in the dashboard in Appendix 4. The dashboard should assist readers in comparing LGPS valuation reports and the information will be used by GAD in their "Section 13" report.

Reconciliation to previous valuation

Funding position

The previous valuation revealed a deficit of £45.3m. The key factors that have influenced the funding level of the Fund over the period are illustrated in the chart below.



Experience

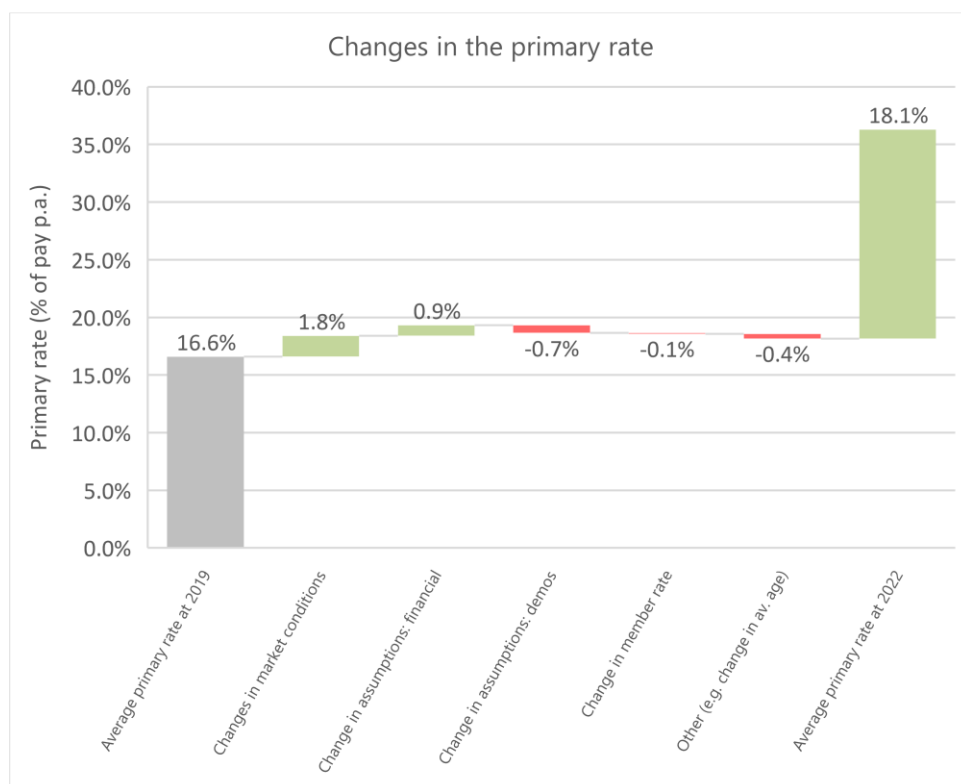
- Investment returns have been strong since 2019 leading to a gain of £106m.
- Contributions paid were higher than the cost of benefits accrued as the employers made deficit contributions resulting in a gain of £13m.
- Pension increases were lower than assumed and salary increases were smaller than assumed, resulting in a combined gain of £34m.
- The overall impact of mortality and other demographic experience was a small gain of £3m.

Assumptions

- A review of the financial assumptions combined with the change in market conditions resulted in an increase in the deficit of £112m.
- Updating the mortality assumptions to allow for a fall in future life expectancies resulted in a decrease in the deficit of £55m.

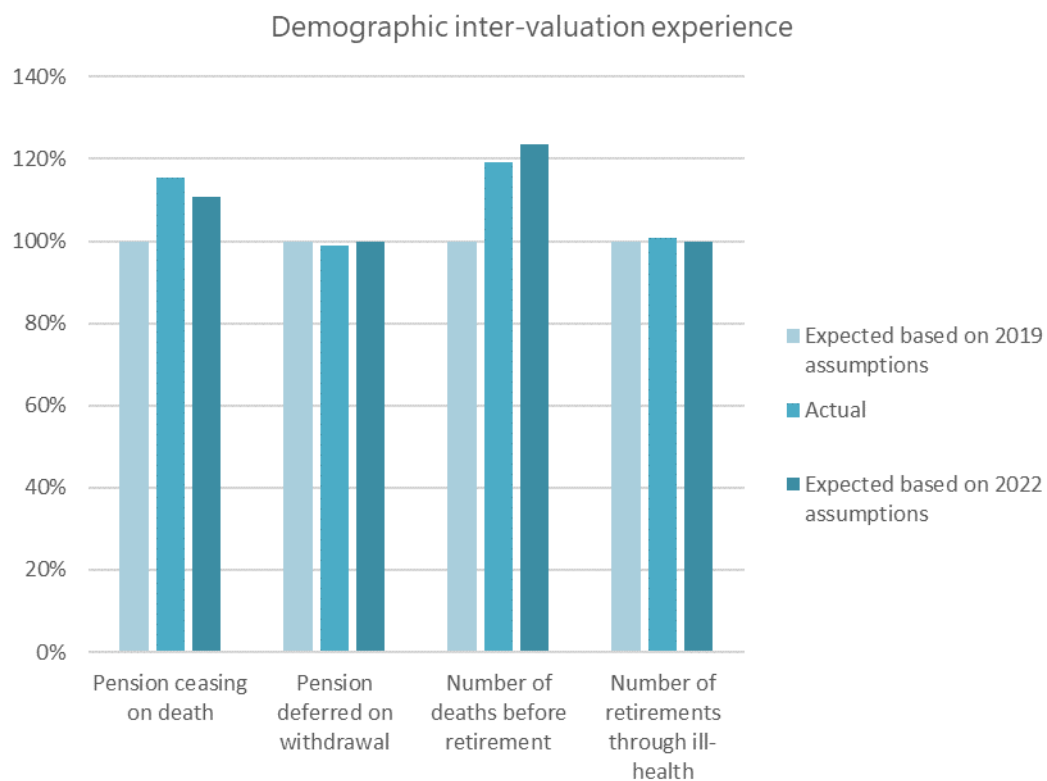
Primary contribution rate

The previous valuation resulted in an average primary rate of 16.6% of Pensionable Pay. The reasons for the change in the cost of future benefit accrual are set out in the reconciliation chart below.



Comparing experience with assumptions

A comparison of the actual demographic experience of members of the Fund over the intervalation period, with that assumed by the assumptions adopted at the last valuation in 2019 is shown in the graph below. The graph also shows how the assumptions adopted for this valuation would have compared with those adopted at 2019.



Sensitivities to the liabilities

The results set out in this report are based on a particular set of assumptions. The actual cost of providing the benefits will depend on the actual experience, which could be significantly better or worse than assumed. The sensitivity of the results to some of the key assumptions is set out in the table below.

The figures in the table are shown relative to the surplus of £43.8m and funding level of 103% on the agreed funding basis.

2022 sensitivity analysis of funding position	2022 Valuation basis	Decrease discount rate by 0.1% p.a.	Increase CPI inflation by 0.1% p.a.	Increase salary assumption by 0.5% p.a.	Increase long-term rate of mortality improvement by 0.25% p.a.	Increase initial addition to mortality improvement by 0.5%	Decrease 2020/21 weighting parameter by 5%
	£bn	£bn	£bn	£bn	£bn	£bn	£bn
Smoothed asset value	1.61	1.61	1.61	1.61	1.61	1.61	1.61
Total past service liabilities	1.57	1.59	1.59	1.58	1.58	1.59	1.58
Surplus / (Deficit)	0.04	0.02	0.02	0.03	0.03	0.02	0.03
Funding level	103%	101%	101%	102%	102%	101%	102%

Sensitivities to the primary contribution rate

The calculated primary contribution rate required to fund benefits as they are earned from year to year will also be affected by the particular set of assumptions chosen. The sensitivity of the primary rate to changes in some key assumptions is shown below. Please note that the primary rate set out below does not include any adjustment via the secondary rate. The total contribution rate payable by employers will be a combination of the primary rate and a secondary rate adjustment, further details can be found in Appendix 5.

The figures in the table are shown relative to the primary rate of 18.1% of Pensionable Pay on the agreed funding basis.

2022 sensitivity analysis of primary rate	2022 Valuation basis	Decrease discount rate by 0.1% p.a.	Increase CPI inflation by 0.1% p.a.	Increase salary assumption by 0.5% p.a.	Increase long-term rate of mortality improvement by 0.25% p.a.	Increase initial addition to mortality improvement by 0.5%	Decrease 2020/21 weighting parameter by 5%
	% of payroll p.a.	% of payroll p.a.	% of payroll p.a.	% of payroll p.a.	% of payroll p.a.	% of payroll p.a.	% of payroll p.a.
Average total future service rate	24.9%	25.5%	25.5%	24.9%	25.2%	25.3%	25.1%
Less average member rate	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%
Fund primary rate	18.1%	18.8%	18.8%	18.1%	18.4%	18.5%	18.3%

Further comments

Funding Strategy Statement (FSS)

The assumptions used for the valuation have been documented in a revised Funding Strategy Statement agreed between the Fund Actuary and the administering authority.

Risks

There are many factors that affect the Fund's funding position and could lead to the Fund's funding objectives not being met within the timescales expected. Some of the key risks that could have a material impact on the Fund are:

- Employer covenant risk
- Investment risk
- Inflation risk
- Mortality risk
- Member options risk
- Regulatory risk
- Climate risk

The sensitivity of the funding results to some of these risks was set out in the sensitivities section of this report. Please note that this is not an exhaustive list. Further information on these risks and more can be found in our initial results report and will be set out in greater detail in the FSS.

Post valuation events

Since the valuation date, there has been some significant market turbulence including material increases in short-term inflation and gilt yields. There is an ongoing cost of living crisis, as well as political turmoil.

However, our funding model is designed to help withstand short-term volatility in markets as it is a longer-term model. We use smoothed assumptions over a six-month period with the ultimate aim of setting stable contributions for employers. The valuation approach and assumptions are not based on gilt yields and

the discount rate is derived from the long-term future expected returns on each asset class with a deduction for uncertainty and risk (our prudence adjustment). Therefore, at this stage, the anticipated effect on the long-term funding position is not significant enough to revise our approach.

Nevertheless, due to the ongoing uncertainty around the shorter-term impact of these issues, we have considered these issues in setting the employer contribution rates to ensure that contributions in to the Fund remain appropriate. Most notably, high inflation will have a significant impact in the short term as higher levels of pensions in payment will need to be paid out of the Fund as a result of the anticipated increase of 10.1% in April 2023.

We will continue to monitor the Fund's funding position and raise any individual employer cases with the Fund that we consider need any special attention. The impact of these events will be fully considered as part of the 2025 valuation when we revisit employer contributions.

The next formal valuation is due to be carried out as at 31 March 2025 however we would recommend that the financial position of the Fund is monitored regularly during the period leading up to the next formal valuation.

Rates and Adjustments Certificate

The contributions payable in respect of benefit accrual and any deficit contributions under each employer's recovery period have been set out in Appendix 5 in the Rates and Adjustments Certificate in accordance with Regulation 62 of the Regulations and cover the period from 1 April 2023 to 31 March 2026. In this certificate no allowance will be made for additional costs arising which need to be met by additional contributions by the employer such as non-ill health early retirements.

The contributions in the Rates and Adjustments Certificate are set so that each employer's assets (including future contributions) are projected to be sufficient to cover the benefit payments for their members, on the assumptions set out in this report. Where there is currently a deficit for an individual employer, recovery of this deficit is targeted in line with the Fund's FSS and all employers are projected to be fully funded after a recovery period length of no more than 20 years from 1 April 2023.

This document has been agreed between the administering authority and the Fund Actuary. Contributions have been set which in our opinion meet the regulatory requirements and the funding objectives set out in the Fund's FSS.

This report must be made available to members on request.

Barry McKay

Barry McKay FFA
Partner
Barnett Waddingham LLP

Appendix 1 Summary of data and benefits

Membership data

The membership data has been provided to us by the administrators of the Fund. We have relied on information supplied by the administrator and the administering authority being accurate. The membership data has been checked for reasonableness and we have compared the membership data with information in the Fund's accounts. The numbers in the tables below relate to the number of records and so will include members in receipt of, or potentially in receipt of, more than one benefit.

Any missing or inconsistent data has been queried with the Fund and estimated where necessary. Whilst this should not be seen as a full audit of the data, we are happy that the data is sufficiently accurate for the purposes of the valuation.

Benefits

Full details of the benefits being valued are set out in the Regulations as amended and summarised on the [LGPS website \(https://www.lgpsmember.org/\)](https://www.lgpsmember.org/). We have made no allowance for discretionary benefits.

Membership summary

A summary of the membership data used in the valuation is as follows. The membership data from the previous valuation is also shown for comparison. Please note that the average ages at 31 March 2022 are weighted by salary for active members and by pension for deferred and pensioner/dependant members, the average ages at 2019 are weighted by liability.

Data used	Data at 31 March 2022			Data at 31 March 2019		
Active members	Number	Pensionable pay £m	Average age	Number	Pensionable pay £m	Average age
Males	2,366	78	48	2,474	72	54
Females	6,263	133	47	6,523	123	53
Total	8,629	211	48	8,997	194	54
Deferred members (including undecided)	Number	Pension £m	Average age	Number	Pension £m	Average age
Males	2,860	7	51	2,997	7	53
Females	7,429	11	51	7,168	11	52
Total	10,289	18	51	10,165	18	52
Pensioner and dependant members	Number	Pension £m	Average age	Number	Pension £m	Average age
Males	2,922	26	72	2,723	24	68
Females	4,940	25	71	4,310	22	68
Total	7,862	51	71	7,033	46	68

Projected retirements

In the table below we have set out the number of members who are assumed to reach retirement age over the period from 1 April 2022 to 31 March 2026 as required under the Regulations.

Members may retire for a number of reasons including reaching normal retirement age, retiring through ill-health or redundancy. The amounts set out in the table below are the new retirement benefit amounts, as at the current valuation date that are assumed to come into payment in each of the intervaluation years.

Projected new benefits		
Year to	Number of members	Retirement benefits £m's
31 March 2023	540	6
31 March 2024	572	7
31 March 2025	609	8
31 March 2026	525	7

Guaranteed Minimum Pension (GMP) equalisation and indexation

On 23 March 2021, the Government published the outcome to its GMP Indexation consultation, concluding that all public service pension schemes, including the LGPS, will be directed to provide full indexation to members with a GMP reaching State Pension Age (SPA) beyond 5 April 2021. This is a permanent extension of the 'interim solution' that has applied to members with a GMP reaching SPA on or after 6 April 2016. Details of the consultation outcome can be found [here](#).

As with the previous valuation, we have assumed that the Fund will pay limited increases for members that have reached SPA by 6 April 2016, with the Government providing the remainder of the inflationary increase. For members that reach SPA after this date, we have assumed that the Fund will be required to pay the entire inflationary increase. We are comfortable that our approach is consistent with the consultation outcome.

Appendix 2 Summary of assumptions

A summary of the assumptions adopted for the valuation at 31 March 2022 and as at 31 March 2019 is set out below.

Assumptions	2022 valuation	2019 valuation
Financial assumptions (p.a.)		
CPI inflation	2.9%	2.6%
Salary increases	3.9%	3.6%
Discount rate	4.8%	5.0%
Pension increases on GMP	Funds will pay limited increases for members reaching SPA by 6 April 2016, and full increases for others	
Demographic assumptions		
Post-retirement mortality		
Base table	S3PA Heavy	S3PA Heavy
Multiplier	100%	90%/95%
Dependant base table	S3DA	S3DA
Dependant multiplier	120%/100%	100%/100%
CMI Model	CMI 2021	CMI 2018
Long-term rate of improvement	1.25% p.a.	1.25% p.a.
Smoothing parameter	7	7.5
Initial addition to improvement	0.0% p.a.	0.0% p.a.
2020/21 weighting parameter	5%	n/a
Retirement assumption	Weighted average	Weighted average
Pre-retirement decrements	GAD 2016 scheme val: no salary scale, 50% multiplier to ill-health rates	GAD 2016 scheme val: no salary scale, 50% multiplier to ill-health rates
50:50 assumption	Member data	Member data
Commutation	50% of max	50% of max

Family statistics

% with qualifying dependant

75% (M) / 70% (F)

75% (M) / 70% (F)

Age difference

Males 3 years older

Males 3 years older

Demographic assumptions – sample rates

The following tables set out some sample rates of the demographic assumptions used in the calculations. These sample rates are based on those set by the Government Actuary's Department (GAD) based on analysis of the Local Government Pension Scheme (LGPS) in England and Wales.

Allowance for ill-health early retirements

A small proportion of members are assumed to retire early due to ill health. In the table below we set out an extract of some sample rates from the GAD tables used:

Age	Males	Females
25	0.01%	0.00%
30	0.01%	0.01%
35	0.02%	0.01%
40	0.04%	0.03%
45	0.09%	0.06%
50	0.18%	0.13%
55	0.36%	0.28%
60	0.74%	0.62%
65	1.51%	1.34%

Please note the above rates are the raw decrements as set by GAD. Our assumption is that there will be 50% of the number of ill-health retirements assumed by GAD.

The proportion of ill-health early retirements falling into each tier category has been assumed to be as follows for both males and females:

Tier 1	Tier 2	Tier 3
75%	15%	10%

Death before retirement

A small number of members are assumed to die before reaching retirement age. In the table below we set out an extract of some sample rates from the GAD tables used:

Age	Males	Females
25	0.02%	0.01%
30	0.03%	0.01%
35	0.05%	0.02%
40	0.06%	0.03%
45	0.09%	0.05%
50	0.13%	0.08%
55	0.21%	0.12%
60	0.32%	0.19%
65	0.50%	0.29%

Please note the above rates are the raw decrements as set by GAD. We have applied a 105% multiplier to the rates assumed by GAD.

Allowance for withdrawals

This assumption is regarding active members who leave service to move to deferred member status. Active members are assumed to leave service at the following sample rates:

Age	Males	Females
25	9.21%	10.17%
30	7.25%	8.07%
35	5.70%	6.40%
40	4.48%	5.07%
45	3.53%	4.03%
50	2.78%	3.19%
55	2.18%	2.53%
60	1.72%	2.01%
65	1.35%	1.59%

Appendix 3 Regulatory uncertainties

There are currently a few important regulatory uncertainties surrounding the 2022 valuation as follows:

- Effect of the McCloud and Sargeant cases;
- Cost management reviews which could affect future and historic LGPS benefits;
- Change in timing of future actuarial valuations from a triennial cycle; and
- Climate change risks and opportunities.

Although it is unclear what impact these uncertainties will have on the future benefits of individual members, we have considered these issues in the assumptions used to set the contribution rates for employers.

McCloud

When the Government reformed public service pension schemes in 2014 and 2015 they introduced protections for older members. In December 2018, the Court of Appeal ruled that younger members of the Judges' and Firefighters' Pension schemes have been discriminated against because the protections do not apply to them. The Government has confirmed that there will be changes to all main public sector schemes, including the LGPS, to remove this age discrimination. A consultation has been run in relation to the changes proposed for the LGPS and legislation is now being drafted to bring forward these changes. We understand the updated Regulations are to be consulted on in 2023 with the earliest effective date expected to be October 2023.

For the 2022 valuation, as instructed by the Department of Levelling Up, Housing and Communities (DLUHC), we have assumed that the legislation will bring forward the changes as currently proposed, and we have valued the benefits in line with this. The data extracts received for valuation purposes did not include the full pay or service history we require to value the cost of the anticipated benefit changes. We therefore made estimates (for active members only) based on the information that is held in data extract provided. Our estimates involve projecting members CARE benefits against the equivalent final salary benefit to determine, for each active member, whether the underpin may bite and the liability value if it does. There still remains uncertainty over the long-term effects of the McCloud judgment but where data has been available, we have been able to estimate the impact of McCloud on individual employers and funding positions and contributions have been set accordingly.

Change in timing of future actuarial valuations from a triennial cycle

In 2019, the Ministry of Housing, Communities & Local Government (as it was then known, now known as DLUHC) issued a consultation which included moving from a triennial to quadrennial valuation cycle from 2024. The issue remains outstanding and we have produced this report on the basis of a triennial valuation cycle.

Cost management reviews

There remain uncertainties around the 2016 and 2020 cost management exercises. Although we understand that the Scheme Advisory Board (SAB) will not be recommending any Scheme changes, this is still to be announced. However, we anticipate the impact of any changes to be small and therefore we have not made an explicit allowance for these.

Further cost management reviews will be carried out and may lead to future benefit changes. However, as the aim of this monitoring is to keep the cost of benefits within an affordable range, we can be relatively comfortable that future reviews will not have a significant impact on the value we currently place on the liabilities, therefore we have not made an explicit allowance for these.

Climate change risks and opportunities

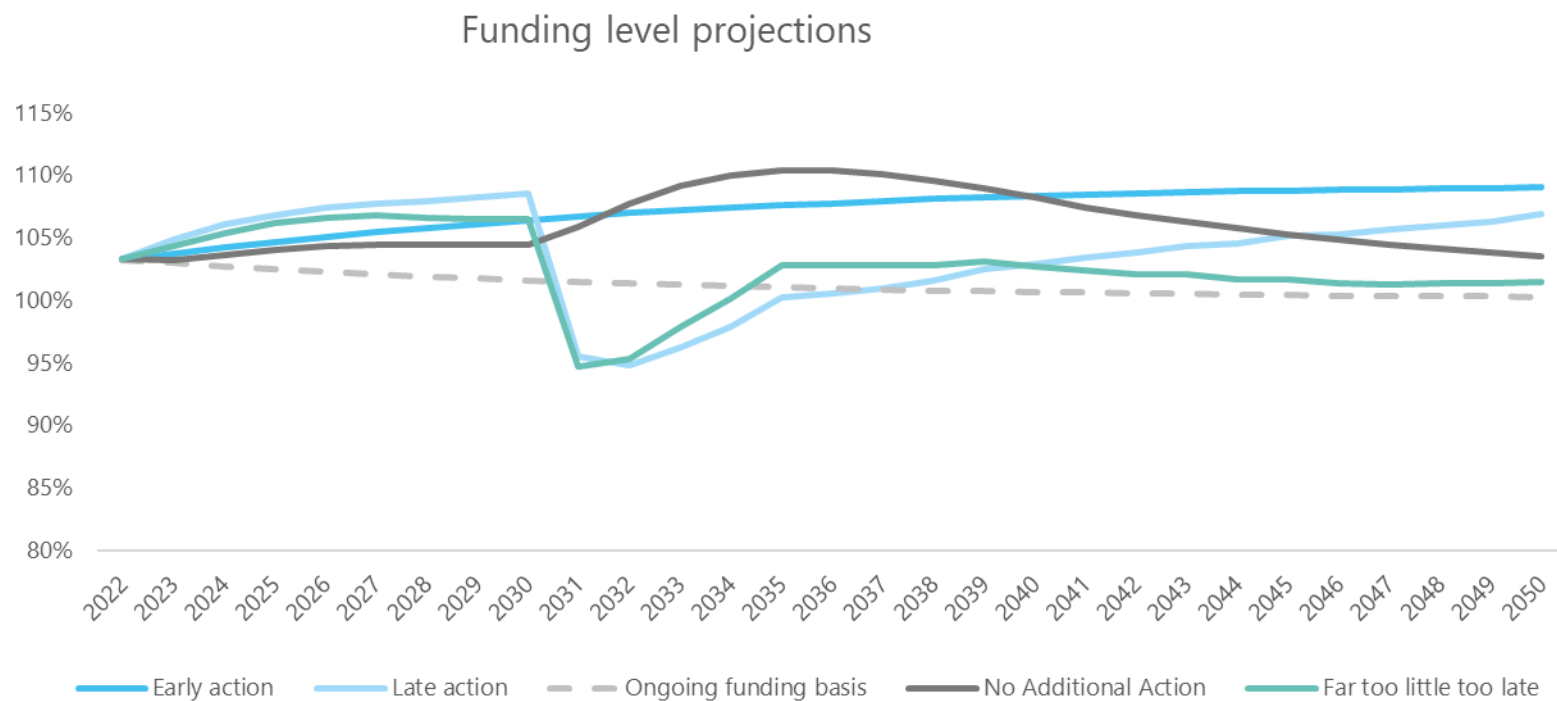
Climate risk is an important consideration for the 2022 valuation. As part of the 2022 valuation process we have used scenario analysis to identify the impact of shorter term climate risk (transition risk) and longer term climate risk (physical risk) on the Fund's potential funding outcomes. This analysis was developed for LGPS funds based on the Department for Work and Pensions regulations, as we await final regulations which apply directly to the LGPS. The analysis was discussed with GAD, who agreed a set of four key principles for how LGPS funds would undertake climate change scenario analysis as part of the 2022 valuation.

Our analysis considered the potential impact on the future investment return outlook (and therefore discount rate) and inflation (and therefore inflation-linked assumptions), for the purpose of projecting asset and liability values and primary rates. We have also considered additional elements such as the potential impact on life expectancy changes and employer covenant. The analysis supports the level of prudence in the funding strategy.

Under the Key principles, it was agreed that each fund should select two scenarios to consider as a minimum including: "Paris-aligned" and higher temperature outcome, and compare these to the funding basis.

- “Paris-aligned” is an optimistic basis which assumes that good progress is made towards the ambitions made in the 2015 Paris Agreement.
- A higher temperature outcome assumes that no new climate policies are introduced beyond those already agreed, resulting in a growing concentration of greenhouse gas emissions and a larger increase in global temperatures.

Our analysis considers four scenarios which are detailed in our climate scenario analysis report. The impact of the on the funding position of each scenario is considered in Projected funding level graph below.



Our “early action” scenario aims to represent a “Paris-aligned” scenario, and our “no additional action” scenario represents a higher temperature outcome.

One of the other key principles agreed with GAD was for results to be considered over a period of at least 20 years. The funding level is projected over a period of 30 years as can be seen in the graph above.

Detail on the Fund’s approach will also be included in the FSS.

COVID-19 crisis

The 2019 valuation report and Rates and Adjustments Certificate were finalised during the early stages of the COVID-19 crisis. Due to the timing of events, no adjustment was made to the 2019 results. There still remains uncertainty over the long-term effects of COVID-19 but where data has been available, we have been able to consider the impact of COVID-19 on individual funds through the longevity analysis and in setting the mortality assumptions for the Fund. On balance, we would expect the pandemic to lead to a modest reduction in future improvements in life expectancy.

Therefore, we are comfortable that contributions have been set appropriately to allow for COVID-19, based on the data available. More data will be available at the next formal valuation in 2025 where we will update our analysis. We will also continue to monitor the situation during the intervalation period.

Appendix 4 Dashboard

GAD Dashboard

2022 Funding position - local funding basis

Funding level (assets/liabilities)	%	102.8%
Funding level (change since previous valuation)	%	6.1%
Asset value used at the valuation	£m	1,613
Value of liabilities (including McCloud liability)	£m	1,569
Surplus (deficit)	£m	44
Discount rate – past service	% pa	4.8%
Discount rate – future service	% pa	4.8%
Assumed pension increases (CPI)	% pa	2.9%
Method of derivation of discount rate, plus any changes since previous valuation		In line with the Funding Strategy Statement

Assumed life expectancies at age 65

Life expectancy for current pensioners – men age 65	years	21.00
Life expectancy for current pensioners – women age 65	years	23.80
Life expectancy for future pensioners – men age 45	years	22.26
Life expectancy for future pensioners – women age 45	years	25.23

Past service funding position - SAB basis (for comparison purposes only)

Market value of assets	£m	1,635
Value of liabilities	£m	1,566
Funding level on SAB basis (assets/liabilities)	%	104.4%
Funding level on SAB basis (change since last valuation)	%	5.1%

Contribution rates payable

		2019 Valuation	2022 Valuation
Primary contribution rate	% of pay	16.6% of pay	18.1%
<i>Secondary contribution rate (cash amounts in each year in line with CIPFA guidance)</i>	£m		
Secondary contribution rate - 1st year of rates and adjustment certificate	£m	3.65	0.83
Secondary contribution rate - 2nd year of rates and adjustment certificate	£m	3.78	0.86
Secondary contribution rate - 3rd year of rates and adjustment certificate	£m	3.92	0.89
<i>Giving total expected contributions</i>			
Total expected contributions - 1st year of rates and adjustment certificate (£ figure based on assumed payroll)	£m	37.11	40.67
Total expected contributions - 2nd year of rates and adjustment certificate (£ figure based on assumed payroll)	£m	38.46	42.25
Total expected contributions - 3rd year of rates and adjustment certificate (£ figure based on assumed payroll)	£m	39.86	43.89
<i>Assumed payroll (cash amounts in each year)</i>			
Total assumed payroll - 1st year of rates and adjustment certificate (£m)	£m	201.56	219.59
Total assumed payroll - 2nd year of rates and adjustment certificate (£m)	£m	208.91	228.11
Total assumed payroll - 3rd year of rates and adjustment certificate (£m)	£m	216.53	236.95
3-year average total employer contribution rate	% of pay	18.4%	18.5%
Average employee contribution rate (% of pay)	% of pay	6.7%	6.8%
Employee contribution rate (£ figure based on assumed payroll of £m)	£m pa	13.51	14.87

Deficit recovery and surplus spreading plan

		2019 Valuation	2022 Valuation
Latest deficit recovery period end date, where this methodology is used by the fund's actuarial advisor	Year	2040	2040
Earliest surplus spreading period end date, where this methodology is used by the fund's actuarial advisor	Year	2023	2026
The time horizon end date, where this methodology is used by the fund's actuarial advisor	Year	n/a	n/a
The funding plan's likelihood of success, where this methodology is used by the fund's actuarial advisor	%	n/a	n/a
Percentage of liabilities relating to employers with deficit recovery periods of longer than 20 years	%	0%	0%

Additional information

Percentage of total liabilities that are in respect of Tier 3 employers	%	0%
Included climate change analysis/comments in the 2022 valuation report	Yes/No	Yes
Value of McCloud liability in the 2022 valuation report (on the local funding basis)	£m	6

Appendix 5 Rates and Adjustments Certificate

Regulatory background

In accordance with Regulation 62 of the Local Government Pension Scheme Regulations we have made an assessment of the contributions that should be paid into the Fund by participating employers for the period 1 April 2023 to 31 March 2026.

The method and assumptions used to calculate the contributions set out in the Rates and Adjustments Certificate are detailed in the Funding Strategy Statement and our report on the actuarial valuation dated 31 March 2023.

The primary rate of contribution as defined by Regulation 62(5) for each employer for the period 1 April 2023 to 31 March 2026 is set out in the table overleaf. The primary rate is the employer's contribution towards the cost of benefits accruing in each of the three years beginning 1 April 2023. In addition each employer pays a secondary contribution as required under Regulation 62(7) that when combined with the primary rate results in the minimum total contributions as set out below. This secondary rate is based on their particular circumstances and so individual adjustments are made for each employer.

Primary and secondary rate summary

The primary rate for the Fund is the weighted average (by payroll) of the individual employers' primary rates and is 18.1% p.a. of payroll.

The secondary rates across the entire Fund (as a percentage of projected Pensionable Pay and as a monetary amount) in each of the three years in the period 1 April 2023 to 31 March 2026 is set out in the table below.

Secondary contributions	2023/24	2024/25	2025/26
Total as a % of payroll	0.4%	0.4%	0.4%
Equivalent to total monetary amounts of	£826,002	£858,039	£891,319

These amounts reflect the individual employers' deficit recovery plans.

General notes

Employers may pay further amounts at any time and future periodic contributions, or the timing of contributions, may be adjusted on a basis approved by us as the Fund Actuary. The administering authority, with the advice from us as the Fund Actuary may allow some or all of these contributions to be treated as a prepayment and offset against future certified contributions.

The certified contributions include an allowance for expenses and the expected cost of lump sum death benefits but exclude early retirement strain and augmentation costs which are payable by participating employers in addition.

The monetary amounts are payable in 12 monthly instalments throughout the relevant year unless agreed by the administering authority and an individual employer.

Employer code	Employer name	Primary rate	Secondary rate (% pay plus monetary adjustment)			Total contributions i.e. primary (% of pay) plus secondary		
		(% pay)	2023/24	2024/25	2025/26	2023/24	2024/25	2025/26
Council related								
Funding Pool	Royal Borough of Greenwich							
1	The Royal Borough of Greenwich	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
2	Joint Crematorium Committee	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
7	Greenwich Mencap	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
8	Woolwich Simba Project	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
19	Avante	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
20	Bridge 86 Ltd	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
21	St Marys Community Complex	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
23	West Greenwich House Community Centre	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
24	First Step Trust	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
25	Greenwich CDA	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
27	Advocacy in Greenwich	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
34	Sanctuary Housing Ltd	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
37	Glyndon Community Centre	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
40	Greenwich Service Plus	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
41	G4S	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
42	Capita	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%

Employer code	Employer name	Primary rate	Secondary rate (% pay plus monetary adjustment)			Total contributions i.e. primary (% of pay) plus secondary		
		(% pay)	2023/24	2024/25	2025/26	2023/24	2024/25	2025/26
45	Charlton Athletic Community Trust	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
54	Heritage Trust	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
63	Oxleas NHS Foundation Trust (camhs)	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
70	Westgate Cleaning (St Marys)	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
73	Westgate Cleaning Sherington	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
74	Taylor Shaw	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
76	TAYLOR SHAW NIGHTINGALE	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
77	May Harris (Hawksmoor)	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
78	Nourish Catering Ltd	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
80	Pacific Support Services	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
84	Taylor Shaw (St Marys)	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
85	Chartwells (Compass)	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
86	Chartwells (Foxfield)	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
87	Birkin	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
88	Brayborne Facilities Services	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
89	Chartwells (Wingfield Contract)	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
91	Wild Life Day Camps	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
92	Wildlife Day Camp Ltd (sports cont)	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
93	Caterlink	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
94	Chartwells	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
95	Chartwells (Compass Group) Charlton Park	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
96	KGB Cleaning South West Ltd	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
97	Wilson Jones	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
98	Taylor Shaw (St Peters)	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
99	Taylor Shaw (St Thomas A Beckett)	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
100	Taylor Shaw (Our Lady of Grace)	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
83	Cucina	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%

Employer code	Employer name	Primary rate	Secondary rate (% pay plus monetary adjustment)			Total contributions i.e. primary (% of pay) plus secondary		
		(% pay)	2023/24	2024/25	2025/26	2023/24	2024/25	2025/26
82	Ecoserve	18.2%	0.3%	0.3%	0.3%	18.5%	18.5%	18.5%
Admission Body								
<i>Funding Pool Greenwich Leisure related</i>								
18	Greenwich Leisure Ltd	16.9%	-	-	-	16.9%	16.9%	16.9%
46	Libraries Contract to Greenwich Leisure Ltd	16.9%	-	-	-	16.9%	16.9%	16.9%
51	Adventure Play Contract to Greenwich Leisure Ltd	16.9%	-	-	-	16.9%	16.9%	16.9%
57	GLL (Children's Centre East)	16.9%	-	-	-	16.9%	16.9%	16.9%
58	GLL (Children's Centre South)	16.9%	-	-	-	16.9%	16.9%	16.9%
Academies								
<i>Funding Pool Academies</i>								
31	St Paul's Academy	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
44	Halley Academy	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
47	Greenwich Free School	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
48	Charlton Park Academy	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
49	Eltham Harris Academy	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
50	Shooters Hill Academy	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
53	University Schools Trust, trading as Royal Greenwich Trust School	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
55	Stationers' Crown Woods Academy	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
56	POLYMAT	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
62	St Thomas More RC Catholic Comprehensive School	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
64	Endeavour Partnership Trust	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
65	Maritime Academy Trust	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
67	Inspire Partnership Trust	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
68	Compass Partnership of Schools	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
69	Greenwich Catholic Sch Trust	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
75	LEIGH ACADEMY BLACKHEATH	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%
79	John Roan Academy	18.3%	0.8%	0.8%	0.8%	19.1%	19.1%	19.1%

Post valuation employers

Employer code	Employer name	Primary rate	Secondary rate (% pay plus monetary adjustment)			Total contributions i.e. primary (% of pay) plus secondary		
		(% pay)	2023/24	2024/25	2025/26	2023/24	2024/25	2025/26
90	Capita Managed IT Solutions Ltd	12.0%	-	-	-	12.0%	12.0%	12.0%
101	Caterlink	18.5%	-	-	-	18.5%	18.5%	18.5%