

Lothian Pension Fund

Report on the actuarial valuation as at 31 March 2023

March 2024

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Executive summary

We have been commissioned by City of Edinburgh Council (“the Administering Authority”) to carry out a valuation of Lothian Pension Fund (“the Fund”) as at 31 March 2023. This fulfils Regulation 60 of the Local Government Pension Scheme (Scotland) Regulations 2018. This report is a summary of the valuation.



1. Contribution rates

The contribution rates for individual employers set at this valuation can be found in the Rates and Adjustments certificate. Table 1 shows the combined individual employer rates set at this valuation and the last valuation.

Table 1: Whole fund contribution rates compared with the previous valuation

	31 March 2023		31 March 2020	
Primary rate	25.0% of pay		23.1% of pay	
Secondary rate	2024/25	-£73,589,000	2021/22	-£11,262,000
	2025/26	-£75,809,000	2022/23	-£11,378,000
	2026/27	-£78,095,000	2023/24	-£11,530,000

The primary rate has increased due to a combination of higher prudence in funding plans and higher future inflation expectations at 2023, compared to 2020. Further details of this higher prudence are set out in Section 2.2.3. The secondary rate has reduced due to strong investment performance since the last valuation, and higher future investment return expectations, leading to stronger past service funding positions amongst employers.



2. Funding position

At 31 March 2023, the past service funding position has improved from the last valuation at 31 March 2020. Table 2 shows the single reported funding position at this valuation and the last valuation.

Table 2: Single reported funding position compared with the previous valuation

	31 March 2023	31 March 2020
	(£m)	(£m)
Active members	2,272	2,868
Deferred Pensioners	824	1,047
Pensioners	3,074	3,156
Total liabilities	6,170	7,071
Assets	9,695	7,479
Surplus (Deficit)	3,525	408
Fund level	157%	106%

The required investment return to be 100% funded is 2.2% p.a. (2.7% p.a. at 2020). The likelihood of the Fund’s investment strategy achieving the required return is 95% (78% at 2020).

1 Approach to the valuation

1.1 Valuation purpose

The triennial actuarial valuation is an important part of the Fund's risk management framework. Its main purpose is to ensure the Fund continues to have a contribution plan and investment strategy that will achieve the objectives set out in the Funding Strategy Statement.

This report marks the culmination of the valuation process and contains its two key outcomes:

- 1 Employer contribution rates for the period 1 April 2024 to 31 March 2027
- 2 The funding level of the whole Fund at 31 March 2023.

Further information on the valuation process, methodology and strategy is set out in the publicly available Funding Strategy Statement, Statement of Investment Principles and published papers of the Fund's Pensions Committee. Additional material is also contained in [Hymans Robertson's LGPS 2023 valuation toolkit](#).

1.2 Setting employer contribution rates

Employer contributions need to be set at a level which ensures the Fund has a reasonable likelihood of having enough money to pay members' benefits. Identifying the amount of benefits that may be paid is complex, as benefits earned today may only start being paid in 50 years' time. Over that period, there is significant uncertainty over factors which affect the cost of benefits eg inflation and investment returns. These uncertainties are allowed for by taking a risk-based approach to setting employer contribution rates. This approach is built around three key funding decisions set by the Fund.

1.2.1 Key funding decisions



Decision 1: What is the funding target for each employer?

Consider: Will the employer remain in the Fund for the long term or exit at some point?



Decision 2: What is the funding time horizon?

Consider: How long will the employer participate in the Fund?



Decision 3: What is the required likelihood of success?

Consider: How much prudence can the employer's covenant support in its funding plan?

1.2.2 Modelling approach

Asset-liability modelling is used to project each employer's assets and benefit payments into the future using 5,000 different economic scenarios. These are generated using Hymans Robertson's Economic Scenario Service (ESS). Further information on this can be found in [Appendix 2](#).

A contribution rate is set for each employer which has (at least) the required likelihood of meeting the funding target over the relevant funding time horizon. The 5,000 projections of the employer's assets and benefits from the asset-liability model are used to quantify the likelihood that a given contribution rate will meet this target.

1.2.3 Risk budgeting

In recognition of uncertainty around climate risk and 'tail risks' in the asset-liability modelling, such as geo-political escalations and rapid reductions to interest rates, the Fund has added prudence into employer funding plans by:

- Increasing the confidence level – the 'likelihood of funding success' parameter described in 1.2.1 above was raised from a minimum of 67% (for some scheduled bodies) at the 2020 valuation to a minimum of 80% across all employers.
- Applying an asset shock – employer assets were reduced by 20% for the purpose of determining contribution rates.

These measures retain money in the Fund to hold as a buffer against future poor experience in the areas mentioned.

1.3 Measuring the funding level

The past service funding level is measured at the valuation date. While it is limited in providing insight into a funding plan, it is a useful high-level summary statistic. A market-related approach is taken to calculate both the assets and the liabilities to ensure they are consistent with one another:

- 1 The bid-market value of the Fund's assets at the valuation date has been used.
- 2 The liabilities have been valued using assumptions based on market indicators at the valuation date (these assumptions are detailed in [Appendix 2](#)).

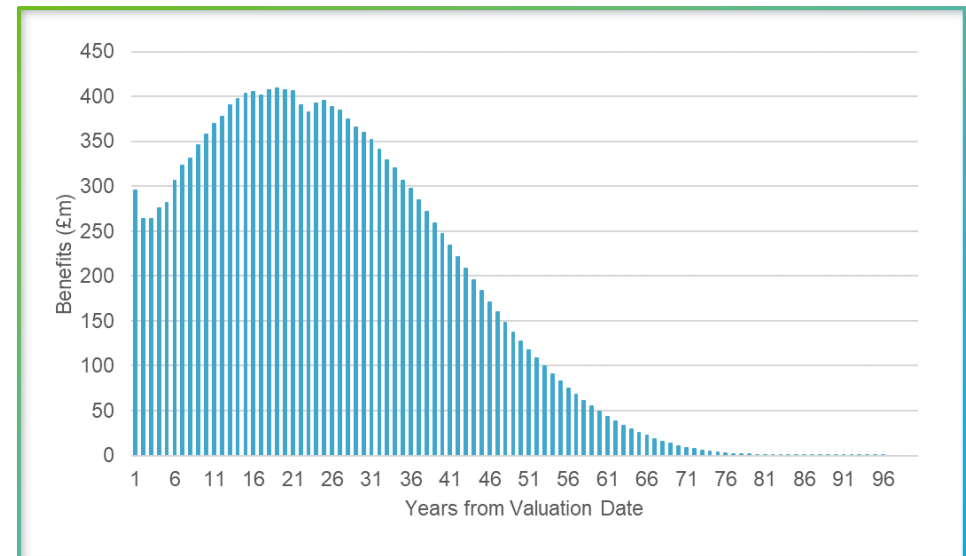
1.3.1 Calculating the liabilities

The liabilities are the value of all future payments to members based on all benefits earned up to the valuation date, expressed in today's money.

Chart 1 shows the projected payments for all members in the Fund at the valuation date. The projections are based on the membership data provided for

the valuation ([Appendix 1](#)), the assumptions ([Appendix 2](#)), and our understanding of the LGPS benefit structure as at 31 March 2023 (details at www.scotlgpsregs.org).

Chart 1: Projected benefit payments for all service earned up to 31 March 2023



To express the future payments in today's money, each projected payment is discounted back to the valuation date in line with an assumed rate of future investment return (known as the discount rate').

2 Valuation results

2.1 Employer contribution rates

The primary objective of the Fund is to set employer contribution rates that will enable it to pay members' benefits. A secondary objective is to ensure the rates are as stable as possible. The risk-based approach detailed earlier is used to meet both those objectives.

The employer contribution rate is made up of two components.

- 1 **A primary rate:** the level sufficient to cover benefits that will be accrued in the future.
- 2 **A secondary rate:** the costs associated with sufficiently funding benefits accrued up to the valuation date.

Each employer has a contribution rate which is appropriate to their circumstances, and these can be found in the Rates & Adjustments Certificate ([Appendix 5](#)).

Broadly speaking, primary rates have increased due to a combination of higher prudence in funding plans and higher future inflation expectations at 2023, compared to 2020. Secondary rates have reduced due to strong investment performance since the last valuation, and higher future investment return expectations, leading to stronger past service funding positions amongst employers.

However, all employers will be different, and the contribution rate will reflect the membership and experience of each employer.

Table 3 shows the total of all employer contribution rates to be paid into the Fund at Whole Fund level over the period 1 April 2024 to 31 March 2027.

Table 3: Whole fund contribution rates compared with the previous valuation

	31 March 2023		31 March 2020	
Primary rate	25.0% of pay		23.1% of pay	
	2024/25	-£73,589,000	2021/22	-£11,262,000
Secondary rate	2025/26	-£75,809,000	2022/23	-£11,378,000
	2026/27	-£78,095,000	2023/24	-£11,530,000

The primary rate includes an allowance of 0.3% of pensionable pay for the Fund's expenses (0.3% of pay at the last valuation).

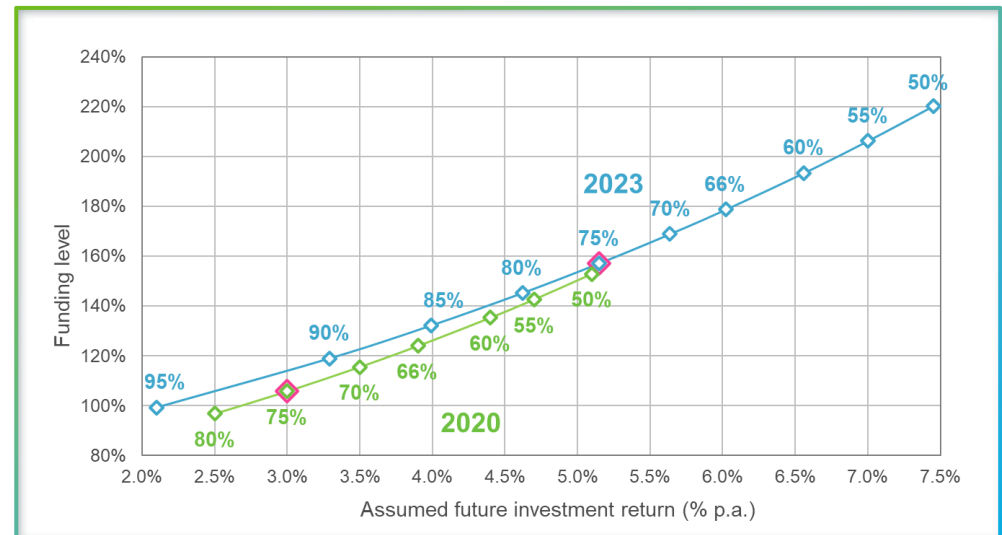
Employees pay a contribution to the Fund in addition to these rates. These rates are set by the LGPS Regulations. The average employee contribution rate at 31 March 2023 is 6.2% of pay (6.3% at 31 March 2020).

2.2 Funding level

The funding level is the ratio of assets to liabilities. The market value of the assets at the valuation date is known. The value (in ‘today’s money’) of the future benefit payments is uncertain given that the level of future investment returns is unknown.

To help understand funding risk, the liabilities and therefore the funding level have been calculated across a range of different assumptions for future investment returns (also known as ‘discount rates’). The likelihood of the Fund’s investment strategy (detailed in [Appendix 1](#)) achieving those levels of return has also been calculated.

Chart 2 shows how the funding level varies with different future investment return assumptions at 31 March 2023 (blue line). The green line shows the same analysis at 31 March 2020.



Figures on each line show the likelihood of the Fund’s assets exceeding the level of return over the next 20 years.



The funding position at 2023 is stronger than it was in 2020.



The funding level at 2023 will be 100% if future returns are around 2.2% pa. The likelihood of the Fund’s assets yielding at least this return is around 95%.



The comparator at 2020 was a return of 2.7% pa which had a likelihood of 78%.



There is a 50% likelihood of an investment return of 7.5% pa, so the “best estimate” funding level is 220% at 31 March 2023 (153% at 2020).

2.3 Single funding level as at 31 March 2023

While Chart 2 provides a better understanding of the past service funding position, there is still a requirement to report a single funding level at 31 March 2023.

To report a single funding level and funding surplus/deficit for the 2023 valuation, an assumed future investment return of 5.2% pa has been used. There is a 75% likelihood associated with this level of future investment return.

Table 4 sets out the assets and liabilities at the valuation date. The results at the 2020 valuation are shown for comparison.

The funding level and surplus/deficit figures provide a high-level snapshot of the funding position as at 31 March 2023, but there are limitations:



The liabilities are calculated using a single set of assumptions about the future and so are very sensitive to the choice of assumptions.



The market value of assets held by the Fund will change daily.

The future progression of the funding position is uncertain. If the financial and demographic assumptions made at this valuation occur in practice, employers pay contributions in line with the R&A certificate, and there are no other changes in the financial or demographic environment, we project that the funding level at the next valuation (31 March 2026) will stay approximately the same at 159%.

The Fund's long-term sustainable rate is 19.3% of pay (excluding expenses). This represents the required primary contribution rate, with a likelihood of success of 75%. This rate is not included in the R&A certificate and does not reflect any employer's current funding profile, only the cost of future service.

Table 4: Single reported funding position compared with the previous valuation

	31 March 2023	31 March 2020
	(£m)	(£m)
Active members	2,272	2,868
Deferred pensioners	824	1,047
Pensioners	3,074	3,156
Total liabilities	6,170	7,071
Assets	9,695	7,479
Surplus/(Deficit)	3,525	408
Funding level	157%	106%

The reported funding level does not directly drive the contribution rates for employers. The contribution rates take into consideration how assets and liabilities will evolve over time in different economic scenarios. They also reflect each employer's funding profile and covenant.

2.4 Changes since the last valuation

2.4.1 Events between 2020 and 2023

The most significant external event to occur since the last valuation has been the Covid-19 pandemic. However, the analysis below shows that mortality experience was broadly as expected over the period with minimal impact on the funding position.

A significant factor which has affected the funding strategy is the Fund's better than expected investment returns. This has had a material positive impact on the funding position.

Financial

Table 5: Analysis of investment return experience between 2020 and 2023 valuations

	Expected	Actual	Difference	Impact on funding position
Investment returns				
3-year period	9.3%	28.4%	19.1%	+£1,469m
Annual	3.0% pa	8.7% pa	5.7% pa	

Membership

Table 6: Analysis of membership experience between 2020 and 2023 valuations

	Expected	Actual	Difference	Impact on funding position
Pre-retirement				
Early leavers	8,639	9,441	802	+£3m
Ill-health retirements	458	364	-94	+£25m
Salary increases	3.1% pa	5.4% pa	2.4% pa	-£128m
Post-retirement				
Benefit increases	1.9% pa	4.5% pa	2.5% pa	-£517m
Pension ceasing	£16.8m	£16.3m	-£0.5m	-£8m

2.4.2 Outlook

Expectations about the future, which inform the assumptions used to value the liabilities, have changed since the last valuation. The most significant changes are:



Future inflation: this is expected to be on average higher than at 2020 due to the current high level of inflation.



Investment returns: due to changes in financial markets, future investment returns are now expected to be higher than at the last valuation.

Table 7: Summary of change in outlook

Factor	What does it affect?	What's changed?	Impact on liabilities
Future investment returns	The rate at which you discount back future benefits payments (also known as the 'discount rate' assumption)	Future investment returns are anticipated to be higher than at 2020.	Decrease of £2,625m
Inflation	The rate at which pensions (both in payment and deferment) and CARE pots increase.	Significant increase in short-term future inflation expectations.	Increase of £577m
Salary increases	The rate at which future salaries will increase. This affects benefits that are still linked to final salary, ie accrued before 1 April 2015.	No material change since last valuation given competing factors, eg tighter budgetary conditions vs. strong job market and pressure from National Living Wage increases.	Increase of £30m
Current life expectancy	How long we expect most people to live for based on today's current observed mortality rates.	Slight reduction in life expectancy (not allowing for Covid-related excess deaths)	Decrease of £38m
Future improvements in life expectancy	How we expect life expectancies to change in the future.	Lower rate of improvement in life expectancy through use of updated model of future improvements, including allowance for some recent mortality experience related to the excess deaths from the Covid 19 pandemic.	Decrease of £179m

2.5 Reconciling the overall change in funding position

Tables 8 and 9 provide insight into the funding position change between 31 March 2020 and 31 March 2023. Firstly, the changes expected to happen (Table 8), which relate mostly to assets. Then the impact of actual experience (Table 9), which affects mainly the liabilities.

2.5.1 Expected development

Table 8: Expected development of funding position between 2020 and 2023 valuations

	Assets	Liabilities	Surplus/ deficit
	£m	£m	£m
31 March 2020 valuation	7,479	7,071	408
Cash flows			
Employer contributions paid in	586	0	586
Employee contributions paid in	162	0	162
Benefits paid out	(762)	(762)	0
Other cash flows (eg expenses, transfers in/out)	42	0	42
Expected changes			
Expected investment returns	713	0	713
Interest on benefits already accrued	0	660	(660)
Accrual of new benefits	0	881	(881)
Expected position at 31 March 2023	8,220	7,850	370

2.5.2 Impact of actual events

Table 9: Impact of actual events on the funding position at 31 March 2023

	Assets	Liabilities	Surplus/ deficit
	£m	£m	£m
Expected position at 31 March 2023	8,220	7,850	370
Events between 2020 and 2023			
Salary increases greater than expected	0	128	(128)
Benefit increases greater than expected	0	517	(517)
Early retirement strain (and contributions)	6	0	6
Ill health retirement strain	0	(25)	25
Early leavers more than expected	0	(3)	3
Other membership experience	0	(11)	11
Higher than expected investment returns	1,469	0	1,469
Changes in future expectations			
Investment returns	0	(2,625)	2,625
Inflation	0	577	(577)
Salary increases	0	30	(30)
Longevity	0	(218)	218
Other demographic assumptions	0	(52)	52
Actual position at 31 March 2023	9,695	6,170	3,525

Numbers may not sum due to rounding.

3 Sensitivity and risk analysis

Funding benefits that are going to be paid in the future involves risk and uncertainty. The Fund therefore maintains a risk register which is regularly reviewed. Additionally, as part of the valuation, the Fund reviews sources of risk that may impact its funding position and the contribution rates payable by employers.

This section discusses some of the most significant sources of funding risk (assumptions, regulatory, administration and governance, and climate change). Further information about the Fund's approach to funding risk management, including monitoring, mitigation, and management, is set out in the Funding Strategy Statement.

The valuation results depend on the actual assumptions made about the future. By their nature, these assumptions are uncertain which means it's important to understand their sensitivity and risk levels.

3.1 Contribution rates

The risk-based approach to setting employer contribution rates mitigates the limitation of relying on one set of assumptions. Therefore, there is no need to carry out additional analysis of the sensitivity of contribution rates to changes in financial assumptions, but they are sensitive to changes in demographic assumptions. The results in this section in relation to the funding position can be broadly applied to the contribution rates.

3.2 Funding level

3.2.1 Financial assumptions

In Section 2.2 we set out how the results vary with the assumed future investment return; here we consider inflation in Table 11.

Table 10: Sensitivity of funding position to discount rate assumption

Discount rate assumption	Surplus/Deficit	Funding level
	£m	%
5.7% pa	3,965	169%
5.2% pa	3,525	157%
4.7% pa	3,049	146%

Table 11: Sensitivity of funding position to inflation assumption

CPI assumption	Surplus/Deficit	Funding level
	£m	%
2.1% pa	3,680	161%
2.3% pa	3,525	157%
2.5% pa	3,366	153%

The main area of demographic risk is if people live longer than expected. Table 12 shows the impact of longer-term longevity rates improving at a faster pace (1.75% pa vs 1.5% pa used in the headline results).

Table 12: Sensitivity of the funding to longevity assumption

Long-term rate of improvement	Surplus/Deficit	Funding level
	£m	%
1.50% pa	3,525	157%
1.75% pa	3,497	156%

3.3 Other risks

3.3.1 Regulatory, administration and governance risks

Potential risks in this area include change in central government legislation, which alters the future cost of the LGPS, and failures in administration processes leading to incorrect data and inaccuracies in actuarial calculations. At this valuation, specific risks include:

McCloud

Benefits accrued by certain members between 2015 and 2022 may increase following the McCloud case, which ruled that transitional protections introduced in 2015 for older members were discriminatory. We've made an allowance for the cost of these potential improvements, based on the guidance issued by the Scottish Public Pensions Agency on 28 April 2023. Details are set out in guide 12 of [Hymans Robertson's LGPS 2023 valuation toolkit](#).

Cost sharing mechanism

Benefits could change because of the 2020 cost cap valuation; the outcome is currently unknown. We have assumed that there will be no changes required to the benefit structure due to the cost cap.

Goodwin

Benefits of certain dependent pensioners could be affected by the outcome of the Goodwin tribunal. As the remedy to this issue is still uncertain, it is difficult to identify who it would apply to. Given that its impact is estimated to be very small for an LGPS fund, we have made no allowance for this change at the 2023 valuation.

GMP Indexation

We have made an allowance for all increases on GMPs for members reaching State Pension age after 6 April 2016 by assuming that all increases will be paid for by LGPS employers in the Fund with no future support from the State (ie the worst-case scenario from an LGPS perspective). The affected members are a

diminishing group, and the financial significance of this allowance will reduce over time. This is the same approach that was taken for the 2020 valuation.

3.3.2 Post-valuation events

Since 31 March 2023, there has been continued volatility in financial markets and rises in interest rates by central banks. These events affect the value of the Fund's assets and liabilities.



The Fund's investment return since 31 March 2023 is estimated to be somewhere between 0% and 5%.



Liability valuations are likely to be lower now than at 31 March 2023 due to rises in expected future investment returns and a reduction in long-term inflation expectations.

As an open scheme, with a strong covenant, the Fund takes a long-term view when considering the funding impact of such events. For employers who have a very short time horizon recent volatility may be more immediately impactful, and the Fund has engaged with these employers as appropriate.

No allowance has been made for this volatility in the valuation results or contribution rates detailed in the Rates & Adjustments Certificate. The Fund will continue to monitor changes in the financial and demographic environment as part of its ongoing risk management approach.

3.4 Climate change

3.4.1 Background

Climate change is a major source of uncertainty which could affect future investment returns, inflation, and life expectancies. Therefore, the Fund has explicitly considered the resilience of its funding and investment strategy to future potential climate change outcomes.

It is impossible to confidently quantify the effect of climate risk given the significant uncertainty over the impact of different possible climate outcomes, as well as societal and economic impacts and adaptations. Instead, three different climate change scenarios have been considered as a stress test (instead of trying to predict how climate change affects the funding level in the future).

All the scenarios assume that there will be a period of disruption linked either to the response to climate risk (transition risks) or the effect of it (physical risks). This disruption is expected to lead to high volatility in financial markets, and the later the disruption, the more pronounced it will be.

More information about the scenarios detailed below can be found in guide 10 of [Hymans Robertson's LGPS 2023 valuation toolkit](#).

3.4.2 Outcome of analysis

The Fund has set its funding and investment strategy using asset-liability modelling and considering two main risk metrics.



Likelihood of success – the chance of being fully funded in 20 years' time.



Downside risk – the average worst 5% of funding levels in 20 years' time.

When exploring the potential impact of climate change, the Fund has compared how these risk metrics change under each climate change scenario (against the 'core' model used when setting the funding and investment strategy). The stress-test results for the Fund are shown in Table 13. All results are in absolute terms.

Table 13: Modelling results with additional climate risk testing

Scenario	Likelihood of success	Downside risk
In comparison to 'core' modelling results		
Green revolution	2% higher	4% lower
Delayed transition	Marginally lower	1% higher
Head in the sand	Marginally lower	5% higher

The results are generally worse in the climate scenarios. This is to be expected given that they are purposefully stress tests, with the scenarios mainly being bad outcomes. Whilst the risk metrics are mostly weaker, they are not materially so, and not enough to suggest that the funding and investment strategy are unduly exposed to climate change risk. The Fund will continue to monitor this risk as more information emerges and climate change modelling techniques evolve.

Given the major uncertainty, it is possible that the impacts could be worse, potentially materially worse, than the 'head in the sand' scenario.

4 Final comments

The Fund's valuation operates within a broader framework, and this document should be considered alongside the following:



The Funding Strategy Statement which, in particular, highlights how different employers in different circumstances have their contributions calculated.



The Statement of Investment Principles, which sets out the investment strategy for the Fund.



The general governance of the Fund, including meetings of the Pensions Committee and Local Pensions Board, decisions delegated to officers, the Fund's business plan, etc.

4.1 New employers joining the Fund

Any new employers or admission bodies joining the Fund should be referred to the Fund Actuary to assess the required level of contribution. Depending on the number of transferring members the ceding employer's rate may also need to be reviewed.

4.2 Cessation and bulk transfers

Any employer who ceases to participate in the Fund should be referred to the Fund Actuary in accordance with Regulation 61 of the LGPS regulations.

Any bulk movement of scheme members:



involving 10 or more scheme members being transferred from or to another LGPS fund.



involving 2 or more scheme members being transferred from or to a non-LGPS pension arrangement.

should be referred to the Fund Actuary to consider the impact on the Fund.

4.3 Valuation frequency

Under the LGPS regulations, the next formal valuation of the Fund is due to be carried out as at 31 March 2026 where contribution rates payable from 1 April 2027 will be set.

Richard Warden FFA

March 2024

For and on behalf of Hymans Robertson LLP

Julie Baillie FFA



Appendices

Appendix 1: Data

Membership data

A summary of the membership data provided by the Fund for the 2023 valuation is set out in Table 14. The corresponding membership data from the previous valuation is also shown for reference.

The results of the valuation are dependent on the quality of the data used. We have carried out a series of validation checks on the data supplied to us by the Administering Authority to ensure that it is fit for purpose.

More information on how we verify the quality of the data used in the valuation has been shared with the Administering Authority in our report 'Data Report for the 2023 Valuation, dated 1 December 2023.

Asset data

To check the membership data and derive employer asset values, we have used asset and accounting data and employer level cash flow data provided by the Fund.

Table 14: Whole Fund membership data at this valuation compared with the previous valuation

Whole Fund membership data	31 March 2023	31 March 2020
Active members		
Number	37,287	34,857
Total actual pay (£000)	925,100	788,544
Total accrued pension (£000)	185,906	152,531
Average age (liability weighted)	53.7	51.8
Future working lifetime (years)	9.3	9.1
Deferred pensioners (including undecideds)		
Number	26,229	22,028
Total accrued pension (£000)	65,866	51,867
Average age (liability weighted)	52.4	50.5
Pensioners and dependants		
Number	34,069	30,953
Total pensions in payment (£000)	229,909	185,632
Average age (liability weighted)	68.5	67.3

Investment strategy

The Fund operates four investment strategies. The allocations used for the calculation of employer contribution rates and to derive the future investment return assumptions are set out in Table 15.

This information was provided by Fund Officers.

Table 15: Investment strategy allocation used for the calculation of employer contribution rates

% Allocated	Main Strategy	Medium Risk Strategy	Low Risk Strategy	Lothian Buses Strategy
UK equities	4.3%	2.1%	0.0%	2.3%
Overseas equities	54.3%	27.1%	0.0%	29.9%
Private equities	1.2%	0.6%	0.0%	0.6%
Total growth assets	59.8%	29.8%	0.0%	32.8%
Index linked gilts	10.1%	55.1%	100.0%	50.6%
Fixed interest gilts	0.5%	0.3%	0.0%	0.3%
Total protection assets	10.6%	55.4%	100.0%	50.9%
Corporate debt	1.6%	0.8%	0.0%	0.9%
Infrastructure	15.2%	7.5%	0.0%	8.3%
Private lending	2.9%	1.5%	0.0%	1.6%
Property	5.2%	2.6%	0.0%	2.9%
Total income generating assets	24.9%	12.4%	0.0%	13.7%
Cash	4.7%	2.4%	0.0%	2.6%
Total	100%	100%	100%	100%

Appendix 2: Assumptions

To set and agree assumptions for the valuation, the Fund carried out an in-depth analysis and review in June 2023. The final set of assumptions, along with the Funding Strategy Statement, was approved by the Pensions Committee in March 2024.

Financial assumptions

Setting employer contribution rates

An asset-liability model was used to set employer contributions at the 2023 valuation. This model relies on Hymans Robertson's proprietary economic model, the Economic Scenario Service (ESS). The ESS reflects the uncertainty associated with future levels of inflation and asset returns and the interactions and correlations between different asset classes and wider economic variables. In the short term (first few years), the models are fitted with current financial market expectations. Over the longer term, models are built around views of fundamental economic parameters, for example equity risk premium, credit spreads and long-term inflation. The table below shows the calibration of the ESS at 31 March 2023. Further information on the assumptions used for contribution rate setting is included in the Funding Strategy Statement.

Table 16: ESS individual asset class return distributions at 31 March 2023

Time period	Percentile	Asset class annualised total returns							Inflation/Yields		
		Cash	All World ex UK Equity	UK Equity	Index Linked Gilts (medium)	Fixed Interest Gilts (medium)	Property	Corporate Debt	Inflation (CPI)	17 year real yield (CPI)	17 year yield
10 years	16 th	2.5%	1.1%	1.3%	0.8%	2.4%	1.2%	2.7%	0.9%	-0.3%	2.7%
	50 th	3.6%	7.3%	7.5%	2.8%	3.7%	6.2%	4.3%	2.5%	0.9%	4.1%
	84 th	4.7%	13.6%	13.5%	5.1%	4.9%	11.5%	5.8%	4.1%	2.2%	5.9%
20 years	16 th	2.3%	2.8%	3.0%	1.0%	3.3%	2.7%	3.7%	0.7%	-0.5%	1.4%
	50 th	3.7%	7.4%	7.5%	2.7%	4.1%	6.4%	4.7%	2.3%	1.3%	3.4%
	84 th	5.4%	12.2%	12.0%	4.5%	4.8%	10.3%	5.8%	3.9%	2.9%	5.9%
40 years	16 th	1.8%	3.7%	3.9%	1.0%	2.9%	3.2%	3.4%	0.6%	-0.6%	1.2%
	50 th	3.5%	7.2%	7.4%	2.7%	3.7%	6.2%	4.4%	2.0%	1.3%	3.3%
	84 th	5.7%	10.9%	10.9%	4.6%	4.9%	9.5%	5.8%	3.5%	3.2%	6.1%
	Volatility (5yr)	2%	18%	18%	7%	5%	15%	6%	3%	-	-

Calculating the funding level

Table 17 summarises the assumptions used to calculate the funding level at 31 March 2023, along with a comparison of assumptions at the last valuation.

Table 17: Summary of assumptions used for measuring the funding level, compared to last valuation

Assumption	31 March 2023	Required for	31 March 2020
Discount rate	5.2% pa	To place a 'today's money' value on all the benefits promised to scheme members at the valuation date. The Fund's assets are estimated to have a 75% likelihood of achieving a return that is at least equal the discount rate.	3.0% pa (based on 75% likelihood)
Benefit increases/CARE revaluation	2.3% pa	To determine the size of future benefit payments.	1.95% pa
Salary increases	3.0% pa*	To determine the size of future final-salary linked benefit payments.	2.45% pa [†] *

*plus a promotional salary scale

[†]a blended assumption of 2% pa until 2025 followed by CPI + 0.7% thereafter

Demographic assumptions

The same demographic assumptions are used to set contribution rates and to assess the current funding level.

Longevity

Table 18: Summary of longevity assumptions at this valuation compared with the previous valuation

	31 March 2023	31 March 2020
Baseline assumptions	VitaCurves based on member-level lifestyle factors	VitaCurves based on member-level lifestyle factors
Future improvements	CMI 2022 model Initial addition = 0.25% (both Male and Female) Smoothing factor = 7.0 Weighting = 0% (2020 & 2021 data), 25% (2022 data) 1.5% pa long-term rate	CMI 2019 model Initial addition = 0.5% (both Male and Female) Smoothing factor = 7.0 1.5% pa long-term rate of improvement

Other demographic assumptions

Table 19: Summary of other demographic assumptions

Death in service	See sample rates in Table 20
Retirements in ill health	See sample rates in Table 20
Withdrawals	See sample rates in Table 20
Promotional salary increases	See sample rates in Table 20
Commutation	70% of future retirements elect to exchange pension for additional tax-free cash up to HMRC limits
50:50 option	0.0% of members (uniformly distributed across the age, service and salary range) will choose the 50:50 option
Retirement age	The earliest age at which a member can retire with their benefits unreduced
Proportion married	A varying proportion of members are assumed to have a dependant at retirement or on earlier death. For example, at age 60 this is assumed to be 85% for males and 60% for females. The dependant of a male member is assumed to be 2 years younger than him and the dependant of a female member is assumed to be 3.5 years older than her.

Sample rates for demographic assumptions

Males

Age	Salary scale	Death before retirement	Withdrawals		Ill health Tier 1		Ill health Tier 2	
		FT & PT	FT	PT	FT	PT	FT	PT
20	105	0.21	240.12	578.87	0.00	0.00	0.00	0.00
25	117	0.21	158.61	382.37	0.11	0.02	0.13	0.02
30	131	0.26	112.51	271.22	0.21	0.03	0.23	0.03
35	144	0.30	87.89	211.87	0.41	0.14	0.46	0.15
40	154	0.51	70.72	170.49	0.62	0.26	0.69	0.24
45	164	0.86	41.33	139.50	0.99	0.51	1.09	0.49
50	174	1.37	32.02	108.06	1.86	1.31	2.59	1.45
55	179	2.15	30.76	103.80	5.83	4.52	4.67	3.11
60	184	3.86	27.39	92.45	9.91	6.97	3.87	2.65
65	185	6.44	0.00	0.00	18.92	13.49	0.00	0.00

Table 20: Sample rates of male and female demographic assumptions

Females

Age	Salary scale	Death before retirement	Withdrawals		Ill health Tier 1		Ill health Tier 2	
		FT & PT	FT	PT	FT	PT	FT	PT
20	105	0.11	256.99	338.79	0.00	0.00	0.00	0.00
25	117	0.11	172.88	227.90	0.16	0.13	0.09	0.10
30	131	0.16	144.88	190.99	0.21	0.18	0.12	0.13
35	144	0.27	89.25	164.73	0.41	0.34	0.24	0.25
40	150	0.44	74.23	137.00	0.61	0.51	0.36	0.37
45	157	0.71	61.11	112.78	0.82	0.68	0.48	0.50
50	162	1.04	46.56	85.94	1.50	1.23	1.11	1.13
55	162	1.37	43.56	80.39	5.47	4.43	2.32	2.35
60	162	1.75	35.02	64.64	11.52	9.30	2.38	2.40
65	162	2.25	0.00	0.00	20.73	16.76	0.00	0.00

Figures are incidence rates per 1,000 members except salary scale. FT and PT denoted full-time and part-time members respectively.

Appendix 3: Reliances & limitations

We have been commissioned by City of Edinburgh Council ('the Administering Authority') to carry out a full actuarial valuation of Lothian Pension Fund ('the Fund') at 31 March 2023, as required under Regulation 60 of the Local Government Pension Scheme (Scotland) Regulations 2018 ('the Regulations').

This report is addressed to the Administering Authority. It has been prepared by us as actuaries to the Fund and is solely for the purpose of summarising the main outcomes of the 2023 actuarial valuation. It has not been prepared for any other third party or for any other purpose. We make no representation or warranties to any third party as to the accuracy or completeness of this report, no reliance should be placed on this report by any third party and we accept no responsibility or liability to any third party in respect of it.

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This summary report is the culmination of other communications in relation to the valuation, in particular:



our [2023 valuation toolkit](#) which sets out the methodology used when reviewing funding plans



our paper dated 9 November 2023 which discusses the funding strategy for the Fund's stabilised employers



our paper dated 7 June 2023 which discusses the valuation assumptions.



our initial results report dated 1 September 2023 which outlines the whole Fund results and inter-valuation experience



our data report dated 1 December 2023 which summarises the data used for the valuation, the approach to ensuring it is fit for purpose and any adjustments made to it during the course of the valuation



the Funding Strategy Statement which details the approach taken to adequately fund the current and future benefits due to members.

The totality of our advice complies with the Regulations as they relate to actuarial valuations.

The following Technical Actuarial Standards apply to this advice and have been complied with where material and to a proportionate degree. They are:

- TAS100 – Principles for technical actuarial work
- TAS300 – Pensions

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Appendix 4: Glossary

Term	Explanation
50:50 option	An option for LGPS members to pay half contributions and earn half the retirement benefit (pre-retirement protection benefits are unreduced).
Asset-liability modelling	An approach to modelling and understanding risk for a pension fund. The assets and liabilities are projected forwards into the future under many different future scenarios of inflation, investment returns and interest rates. The future scenarios are then analysed to understand the risk associated with a particular combination of contribution rates and investment strategy. Different combinations of contribution rates and/or investment strategies may be tested.
Baseline longevity	The rates of death (by age and sex) in a given group of people based on current observed data.
Club Vita	A firm of longevity experts who Hymans Roberston partner with for longevity analysis. They combine data from thousands of pension schemes and use it to create detailed baseline longevity assumptions at member-level, as well as insights on general longevity trends and future improvements.
Commutation	The option for members to exchange part of their annual pension for a one-off lump sum at retirement. In the LGPS, every £1 of pension exchanged gives the member £12 of lump sum. The amounts that members commute is heavily influenced by tax rules which set an upper limit on how much lump sum can be taken tax-free.
CPI inflation	The annual rate of change of the Consumer Prices Index (CPI). The CPI is the UK government's preferred measure of inflation and is the measure used to increase LGPS (and all other public sector pension scheme) benefits each year.
Deferred pensioner	A former employee who has left employment (or opted out of the pension fund) but is not yet in receipt of their benefits from the fund.
Demographic assumptions	Assumptions concerned with member and employer choices rather than macroeconomic or financial factors. For example, retirement age or promotional salary scales. Demographic assumptions typically determine the timing of benefit payments.

Term	Explanation
Discount rate	An assumption for the annual rate of future investment return. Used to place a single ‘today’s money’ value on a stream of future payments.
Active member	A member who is currently employed by employers who participate in the Fund and are paying contributions into the Fund.
ESS	Economic Scenario Service - Hymans Robertson’s proprietary economic scenario generator used to create thousands of simulations of future inflation, asset class returns and interest rates.
Funding position	<p>The extent to which the assets held by the Fund at 31 March 2023 cover the accrued benefits ie the liabilities. The two measures of the funding position are:</p> <ul style="list-style-type: none"> • the funding level - the ratio of assets to liabilities; and • the funding surplus/deficit - the difference between the asset and liabilities values.
Inflation	Prices tend to increase over time, which is called inflation. Inflation is measured in different ways, using a different ‘basket’ of goods and mathematical formulas.
Liabilities	An employer’s liability value is the single value at a given point in time of all the benefit payments expected to be made in future to all members. Benefit payments are projected using demographic and financial assumptions and the liability is calculated using a discount rate.
Longevity improvements	An assumption about how rates of death will change in future. Typically, we assume that death rates will fall and life expectancies will improve over time, continuing the long-running trend.
Pensioner	A former employee who is in receipt of their benefits from the fund. This category includes eligible dependants of the former employee.
Primary rate	The estimated cost of future benefits, expressed in percentage of pay terms. The primary rate will include an allowance to cover the Fund’s expenses.

Term	Explanation
Prudence	To be prudent means to err on the side of caution in the overall set of assumptions. We build prudence into the choice of discount rate by choosing an assumption with a prudence level of more than 50%. All other assumptions aim to be best estimate.
Prudence level	A percentage indicating the likelihood that the assumed rate of investment return will be achieved in practice, based on the ESS model. The higher the prudence level, the more prudent the assumed rate of investment return.
Secondary rate	An adjustment to the primary rate, generally to reflect costs associated with benefits that have already been earned up to the valuation date. This may be expressed as a percentage of pay and/or monetary amount.
Withdrawal	Refers to members leaving the scheme before retirement. These members retain an entitlement to an LGPS pension when they retire but are no longer earning new benefits.

Appendix 5: Rates and Adjustments Certificate

In accordance with Regulation 60(4) of the Regulations, we have assessed the contributions that should be paid into the Fund by participating employers for the period 1 April 2024 to 31 March 2027 to maintain the solvency of the Fund.

The method and assumptions used to calculate the contributions set out in this Rates and Adjustments Certificate are detailed in the Funding Strategy Statement dated March 2024 and in Appendix 2 of the report on the actuarial valuation dated March 2024. These assumptions underpin our estimate of the number of members who will become entitled to a payment of pensions under the provisions of the LGPS and the amount of liabilities arising in respect of such members.

Table 21 summarises the whole Fund primary and secondary contribution rates for the period 1 April 2024 to 31 March 2027. The primary rate is the payroll weighted average of the underlying individual employer primary rates and the secondary rate is the total of the underlying individual employer secondary rates, calculated in accordance with the LGPS regulations and CIPFA guidance. The secondary rate has been shown both as a monetary amount and an equivalent percentage of the projected pensionable pay.

Table 21: Whole fund primary and secondary contribution rates from 1 April 2024 to 31 March 2027

This valuation (31 March 2023)		
Primary rate	25.0% of pay	
Secondary rate	Monetary amount	Equivalent to % of payroll
2024/25	-£73,589,000	-7.5%
2025/26	-£75,809,000	-7.5%
2026/27	-£78,095,000	-7.5%

The required minimum contribution rates for each employer in the Fund are set out in the remainder of this certificate.



Richard Warden FFA
March 2024

For and on behalf of Hymans Robertson LLP



Julie Baillie FFA

Employer code	Employer name	Primary rate (% of pay)	Secondary rate (% of pay)			Total contributions (Primary rate plus secondary rate)			Notes
			2024/25	2025/26	2026/27	2024/25	2025/26	2026/27	
Scheduled/Contribution Stability Mechanism Bodies (Main Investment Strategy)									
Pool	The City of Edinburgh Council	24.3%	-6.7%	-6.7%	-6.7%	17.6%	17.6%	17.6%	
Pool	Midlothian Council	24.3%	-6.7%	-6.7%	-6.7%	17.6%	17.6%	17.6%	
Pool	West Lothian Council	24.2%	-6.6%	-6.6%	-6.6%	17.6%	17.6%	17.6%	
Pool	East Lothian Council	24.3%	-6.7%	-6.7%	-6.7%	17.6%	17.6%	17.6%	
Pool	Scottish Police Authority	27.5%	-9.9%	-9.9%	-9.9%	17.6%	17.6%	17.6%	
Pool	Heriot-Watt University	25.9%	-8.3%	-8.3%	-8.3%	17.6%	17.6%	17.6%	
Pool	Edinburgh College	29.9%	-12.3%	-12.3%	-12.3%	17.6%	17.6%	17.6%	
21	Audit Scotland	29.2%	-11.6%	-11.6%	-11.6%	17.6%	17.6%	17.6%	
30	Queen Margaret University	25.6%	-8.0%	-8.0%	-8.0%	17.6%	17.6%	17.6%	
51	Edinburgh Napier University	25.4%	-7.8%	-7.8%	-7.8%	17.6%	17.6%	17.6%	
105	West Lothian College	30.4%	-12.8%	-12.8%	-12.8%	17.6%	17.6%	17.6%	
134	Lothian Valuation Joint Board	24.3%	-6.7%	-6.7%	-6.7%	17.6%	17.6%	17.6%	
135	Scottish Water	23.8%	-6.2%	-6.2%	-6.2%	17.6%	17.6%	17.6%	
155	Visit Scotland	29.8%	-12.2%	-12.2%	-12.2%	17.6%	17.6%	17.6%	
209	SESTRAN	30.6%	-3.8%	-3.8%	-3.8%	26.8%	26.8%	26.8%	
210	Improvement Service	29.2%	-11.6%	-11.6%	-11.6%	17.6%	17.6%	17.6%	
218	Scottish Futures Trust	26.5%	-8.9%	-8.9%	-8.9%	17.6%	17.6%	17.6%	
899	Scottish Fire and Rescue Service	27.6%	-10.0%	-10.0%	-10.0%	17.6%	17.6%	17.6%	

Employer code	Employer name	Primary rate (% of pay)	Secondary rate (% of pay)			Total contributions (Primary rate plus secondary rate)			Notes
			2024/25	2025/26	2026/27	2024/25	2025/26	2026/27	
Lothian Buses (Buses Investment Strategy)									
900	Lothian Buses	29.2%	-19.3%	-19.3%	-19.3%	9.9%	9.9%	9.9%	
Transferee Admission Bodies (Main Investment Strategy)									
139	CGI	34.3%	-34.3%	-34.3%	-34.3%	0.0%	0.0%	0.0%	
140	Dacoll	37.0%	-37.0%	-37.0%	-37.0%	0.0%	0.0%	0.0%	
200	Forth & Oban Ltd	30.9%	-18.9%	-18.9%	-18.9%	12.0%	12.0%	12.0%	
207	LPFE Limited	22.9%	-4.8%	-4.8%	-4.8%	18.1%	18.1%	18.1%	
212	Skanska	38.0%	-38.0%	-38.0%	-38.0%	0.0%	0.0%	0.0%	
214	NSL Services Group	38.4%	-38.4%	-38.4%	-38.4%	0.0%	0.0%	0.0%	
220	Mitie PFI CEC PP2	33.4%	-33.4%	-33.4%	-33.4%	0.0%	0.0%	0.0%	
222	Compass-Chartwell	42.3%	-42.3%	-42.3%	-42.3%	0.0%	0.0%	0.0%	
224	BaxterStorey	38.3%	-38.3%	-38.3%	-38.3%	0.0%	0.0%	0.0%	
225	Bellrock	27.5%	-20.1%	-20.1%	-20.1%	7.4%	7.4%	7.4%	
227	Sodexo Ltd	38.6%	-38.6%	-38.6%	-38.6%	0.0%	0.0%	0.0%	
228	BEAR	38.0%	-38.0%	-38.0%	-38.0%	0.0%	0.0%	0.0%	
Open Community Admission Bodies (Main Investment Strategy)									
<i>Pool</i>	Canongate Youth Project	25.6%	-10.0%	-10.0%	-10.0%	15.6%	15.6%	15.6%	
15	Newbattle College	33.7%	-19.8%	-19.8%	-19.8%	13.9%	13.9%	13.9%	

Employer code	Employer name	Primary rate (% of pay)	Secondary rate (% of pay)			Total contributions (Primary rate plus secondary rate)			Notes
			2024/25	2025/26	2026/27	2024/25	2025/26	2026/27	
28	Convention of Scottish Local Authorities	25.2%	1.8%	1.8%	1.8%	27.0%	27.0%	27.0%	
46	Museums Galleries Scotland	25.0%	-5.6%	-5.6%	-5.6%	19.4%	19.4%	19.4%	
64	Citadel Youth Centre	25.7%	-6.4%	-6.4%	-6.4%	19.3%	19.3%	19.3%	
87	Family Advice & Information Resource	26.2%	-1.8%	-1.8%	-1.8%	24.4%	24.4%	24.4%	
90	Handicabs (Lothian) Limited	27.2%	-9.4%	-9.4%	-9.4%	17.8%	17.8%	17.8%	
117	Scottish Schools Education Research	25.3%	1.0%	1.0%	1.0%	26.3%	26.3%	26.3%	
121	Edinburgh Development Group	27.3%	-7.4%	-7.4%	-7.4%	19.9%	19.9%	19.9%	
123	Scottish Adoption Agency	26.9%	-1.5%	-1.5%	-1.5%	25.4%	25.4%	25.4%	
133	Children's Hospice Association Scotland	25.8%	-7.8%	-7.8%	-7.8%	18.0%	18.0%	18.0%	
143	First Step	26.4%	-8.1%	-8.1%	-8.1%	18.3%	18.3%	18.3%	
147	Melville Housing Association	32.7%	-9.0%	-9.0%	-9.0%	23.7%	23.7%	23.7%	
154	St Andrew's Children's Society Limited	27.2%	-7.8%	-7.8%	-7.8%	19.4%	19.4%	19.4%	
157	West Lothian Leisure	27.5%	-11.3%	-11.3%	-11.3%	16.2%	16.2%	16.2%	
172	Homes for Life Housing Partnership	26.4%	-5.8%	-5.8%	-5.8%	20.6%	20.6%	20.6%	
174	Capital City Partnership	25.0%	-6.2%	-6.2%	-6.2%	18.8%	18.8%	18.8%	
196	HWU Students Association	25.2%	-8.0%	-8.0%	-8.0%	17.2%	17.2%	17.2%	
219	Enjoy East Lothian	24.0%	-7.4%	-7.4%	-7.4%	16.6%	16.6%	16.6%	

Employer code	Employer name	Primary rate (% of pay)	Secondary rate (% of pay)			Total contributions (Primary rate plus secondary rate)			Notes
			2024/25	2025/26	2026/27	2024/25	2025/26	2026/27	
223	Children's Hearings Scotland	25.6%	-8.4%	-8.4%	-8.4%	17.2%	17.2%	17.2%	
Closed Community Admission Bodies (Main Investment Strategy)									
78	ELCAP	23.2%	-23.2%	-23.2%	-23.2%	0.0%	0.0%	0.0%	
118	Royal Edinburgh Military Tattoo	33.8%	-10.8%	-10.8%	-10.8%	23.0%	23.0%	23.0%	
159	Edinburgh Leisure	27.1%	-27.1%	-27.1%	-27.1%	0.0%	0.0%	0.0%	
193	Health in Mind	31.4%	-31.4%	-31.4%	-31.4%	0.0%	0.0%	0.0%	
Closed Community Admission Bodies (Medium Risk Investment Strategy)									
9	University of Edinburgh (E.C.A.)	23.4%	0.0%	0.0%	0.0%	23.4%	23.4%	23.4%	
104	SRUC	35.2%	7.3%	7.3%	7.3%	42.5%	42.5%	42.5%	
158	Royal Society of Edinburgh	20.4%	0.0%	0.0%	0.0%	20.4%	20.4%	20.4%	
Closed Community Admission Bodies (Low Risk Investment Strategy)									
89	North Edinburgh Dementia Care	29.2%	-16.2%	-16.2%	-16.2%	13.0%	13.0%	13.0%	
173	Pilton Equalities Project	30.2%	-30.2%	-30.2%	-30.2%	0.0%	0.0%	0.0%	

Further comments to the Rates & Adjustments Certificate

- Contributions expressed as a percentage of payroll should be paid into the Fund at a frequency in accordance with the requirements of the Regulations.
- Further sums should be paid to the Fund to meet the costs of any early retirements and/or augmentations or salary growth strains using methods and factors issued by us from time to time or as otherwise agreed.
- Payments may be required to be made to the Fund by employers to meet the capital costs of any ill-health retirements that exceed those allowed for within our assumptions. If an employer has ill health liability insurance in place with a suitable insurer and provides satisfactory evidence to the Administering Authority, then their certified contribution rate may be reduced by the value of their insurance premium, for the period the insurance is in place.
- The certified contribution rates represent the **minimum** level of contributions to be paid. Employing authorities may pay further amounts at any time and future periodic contributions may be adjusted on a basis approved by the Fund Actuary.

Appendix 6: Section 13 dashboard

Metric	Unit	2023 Valuation
2023 funding position – local funding basis		
Funding level (assets/liabilities)	%	157%
Funding level (change since previous valuation)	%	51% increase
Asset value used at the valuation	£m	9,695
Value of liabilities (including McCloud liability)	£m	6,170
Surplus (deficit)	£m	3,525
Discount rate (past service)	% pa	5.2%
Discount rate (future service)	% pa	Past service and future service are consistently valued with the same underlying assumptions, methodologies, and models regarding future expected levels of inflation, interest rates and investment returns.
Assumed pension increase (CPI)	% pa	2.3%
Method of derivation of discount rate, plus any changes since previous valuation		There is a 75% likelihood that the Fund's assets will return at least 5.2% over the 20 years following the 2023 valuation date. The same methodology and likelihood was used for the 2020 valuation.

Metric	Unit	2023 Valuation
Assumed life expectancy at age 65		
Life expectancy for current pensioners – men age 65	Years	20.3
Life expectancy for current pensioners – women age 65	Years	23.1
Life expectancy for future pensioners – men age 45	Years	21.6
Life expectancy for future pensioners – women age 45	Years	24.8
Past service funding position – SAB basis (for comparison purposes only)		
Market value of assets	£m	9,695
Value of liabilities	£m	6,985
Funding level on SAB basis (assets/liabilities)	%	139%
Funding level on SAB basis (change since last valuation)	%	6% increase

Metric	Unit	2023 Valuation	2020 Valuation
Contribution rates payable			
Primary contribution rate	% of pay	25.0%	23.1%
Secondary contribution rate (cash amounts in each year in line with CIPFA guidance)			
1 st year of rates and adjustments certificate	£m	-73.589	-11.262
2 nd year of rates and adjustments certificate	£m	-75.809	-11.378
3 rd year of rates and adjustments certificate	£m	-78.095	-11.530
Giving total expected contributions			
1 st year (£ figure based on assumed payroll)	£m	171.442	179.980
2 nd year (£ figure based on assumed payroll)	£m	176.613	184.577
3 rd year (£ figure based on assumed payroll)	£m	181.940	189.254
Assumed payroll (cash amounts in each year)			
1 st year rates and adjustments certificate	£m	981.644	827.889
2 nd year rates and adjustments certificate	£m	1,011.251	848.291
3 rd year rates and adjustments certificate	£m	1,041.752	869.196
Three-year average	% of pay	21.8%	17.5%
Average employee contribution	% of pay	6.2%	6.3%
Employee contribution rate (£ figure based on assumed payroll of £981.644m)	£m pa	60.4	51.3

Metric	Unit	2023 Valuation	2020 Valuation
Deficit recovery and surplus spending plan			
Latest deficit recovery period end date, where this methodology is used by the fund's actuarial advisor.	Year	Methodology not used	Methodology not used
Earliest surplus spreading period end date, where this methodology is used by the fund's actuarial advisor.	Year	Methodology not used	Methodology not used
The time horizon end date, where this methodology is used by the fund's actuarial advisor	Year	2043	2040
The funding plan's likelihood of success, where this methodology is used by the fund's actuarial advisor.	%	75%	75%
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	%	10%	10%
Included climate change analysis/comments in the 2023 valuation report		Yes	Not applicable
Value of McCloud liability in the 2023 valuation report (on local funding basis)	£m	37.3	Not applicable